A. INTRODUCTION

This chapter considers a range of alternatives to the proposed rezoning and other related land use actions for the Greenpoint-Williamsburg Rezoning project. In addition to considering alternatives that would avoid or reduce action-related significant adverse impacts, this chapter considers other alternatives which would have similar impacts to the proposed action but are intended to advance specific goals and objectives. It also considers alternatives suggested during the public scoping process.

The analysis first considers the No Action Alternative, in which the proposed rezoning and other actions are not undertaken. It then assesses a No Impacts Alternative, in which there is a change in density or program design in order to avoid the potential impacts associated with the projected development sites. The Lesser Density Alternative considers a lower density zone than the proposed action on some waterfront sites, as well as lower density residential designations on specified upland sites. The fourth alternative is an Additional Waterfront Development (AWD) Alternative, in which the middle and southern segments of the proposed park would not be mapped, and the blocks between North 9th and North 12th Streets would be zoned to R6 and R8 districts. The Waterfront Urban Design Alternative considers a maximum height of 250 feet for buildings on waterfront parcels where R8 districts are mapped, and allows towers to be located further from the shoreline. The Affordable Housing Zoning District (AHZD) Alternative, which was suggested by the office of Councilman David Yassky during the public scoping process, considers the application of a mandatory affordable housing requirement in the proposed action area, including both waterfront and upland areas. Lastly, this chapter analyzes a Revised Affordable Housing Bonus and Incentives (Revised AHBI) Alternative, which was developed by the Department of City Planning in response to comments received during the public review process for the DEIS.This alternative reflects the Department's modified ULURP application (ULURP Nos. N050110(A)ZRK and C050111(A)ZMK), which incorporates zoning-based mechanisms to encourage affordable housing, together with some changes to height and setback regulations in the waterfront area and minor changes to the zoning map. This alternative modifies and replaces the Affordable Housing Bonus and Incentives (AHBI) Alternative analyzed in the DEIS.

The development scenario implications of each alternative are summarized in Table 23-1 below, compared to the RWCDS for the 76 projected development sites identified for the proposed action. As summarized in the table, the total net number of dwelling units would vary with each of the identified alternatives.

With the exception of the No Impacts Alternative and the Affordable Housing Zoning District Alternative, for each of the technical areas presented in this environmental impact statement, the anticipated effects of the proposed action are compared to those that would result from each of the alternatives.

TABLE 23-1
Summary of Residential Development Under Each Alternative

	Residential Dwelling Units on Projected Development Sites			
	Waterfront Sites	Upland Sites	Total DUs	Net Increment (compared to No-Action)
Proposed Action	5,544	2,713	8,257	7,391
No Action Alternative	0	866	866	0
No Impacts Alternative	398	1,061	1,459	593
Lesser Density Alternative	5,143	2,588	7,731	6,865
Additional Waterfront Development Alternative	7,074	2,713	9,787	8,921
Waterfront Urban Design Alternative	same number of units as with the proposed action			
Revised Affordable Housing Bonus and Incentives Alternative	6,067	2,713	8,780	7,914

B. NO ACTION ALTERNATIVE

The No Action Alternative assumes that the proposed zoning changes and other land use actions would not be implemented. This alternative is discussed and analyzed as "Future Without the Proposed Action" in each of the technical areas of Chapters 2 through 19. This analysis compares conditions under the No Action Alternative to conditions with the proposed action. The No Action Alternative assumes no amendments to the zoning map; no zoning text amendments to establish the Greenpoint-Williamsburg Waterfront Access Plan (WAP) and modify the use and bulk regulations applicable within the area governed by the WAP; and no changes to the City Map to demap certain streets and map a new waterfront park. The No Action Alternative would not require any discretionary actions. The effects of this alternative are summarized below and compared to those of the proposed action.

Land Use, Zoning, and Public Policy

Under the No Action Alternative, the current land use trends characterized by an overall decline in heavy industrial and manufacturing uses and a continued shift to lighter industrial uses and residential development would continue in the area. However, the developments associated with the proposed action would not take place with this alternative. Given increasing demand for residential conversion and development, requests for Board of Standards and Appeals (BSA) variances for residential use in light manufacturing areas, illegal conversion practices and the deterioration of vacant land and buildings would continue under the No Action Alternative. The demand for housing would continue to grow, creating development pressure in portions of Greenpoint-Williamsburg that are currently zoned to permit new residential use. Under the No Action Alternative, new housing developed in the proposed action area would not be subject to height limits.

It is anticipated that the waterfront would remain inaccessible to the public under the No Action Alternative, and no new parkland would be provided within the proposed action area (with the exception

of the former WNYC transmitter site). Moreover, unlike the proposed action, the No Action Alternative would not provide the zoning map changes and text amendments necessary to support a comprehensive planning effort for the underutilized Greenpoint-Williamsburg waterfront. In this alternative, zoning changes and new development would be expected to occur on a site-by-site basis as a continuation of the existing redevelopment trends in the area. However, this growth would not be coordinated according to a comprehensive, area-wide plan, as it would be under the proposed action. This alternative would also not facilitate the development of new housing and local retail, nor would it address the mixed-use character of Greenpoint and Williamsburg.

The considerable benefits expected to result from the proposed action—the expansion of housing supply in an area that has been experiencing an increase in housing demand; facilitating the redevelopment of vacant and underutilized lots, especially those located along the waterfront; providing a framework to allow existing loft conversions to legalize; and the creation of new parkland and public waterfront access associated with new residential development on the waterfront—would not be realized under the No Action Alternative. Thus, while the No Action Alternative would eliminate the significant adverse impacts identified in the EIS, it would not meet the goals of the Greenpoint-Williamsburg Rezoning project.

Socioeconomic Conditions

Under the No Action Alternative, it is generally anticipated that existing economic activities on the projected development sites would remain. Absent the proposed action, it is anticipated that development would occur on some of the 76 projected development sites, resulting in the addition of approximately 866 dwelling units, as well as a reduction of approximately 200 employees associated with industrial/manufacturing/storage/automotive uses, and an increase of approximately 205 employees associated with retail uses. Unlike the proposed action, the No Action Alternative would not result in the direct displacement of an estimated 4 residential units and approximately 38 industrial and commercial firms.

The No Action Alternative would not result in significant benefits to the area's business and residential communities through economic growth and job retention. The No Action Alternative would also not beneficially impact existing businesses by increasing residential and worker populations (by approximately 15,872 and 226 net new people, respectively) and thereby creating a substantial new customer base. The No Action Alternative also would not realize benefits from creating or retaining a significant number of jobs in New York City and State during construction and operations associated with the projected development sites.

Under the No Action Alternative, although some new residential housing would be developed, it would not occur to the extent that is expected under the proposed action. According to *CEQR Technical Manual* guidelines, the proposed action has the potential to result in indirect displacement pressures on residents in certain census tracts in the study area. This impact, requiring mitigation, would not occur under the No Action Alternative. Neither the alternative nor the proposed action would directly displace anchor establishments or uses that form a customer base, or introduce a use that would lower property values. Although the proposed action is expected to accelerate a trend of socioeconomic change, the area has already experienced an influx of higher income households. Under the No Action Alternative, the same type of socioeconomic change is expected to continue in the proposed action area and parts of the study area, but to a lesser extent than under the proposed action. However, the No Action Alternative would not further the City's goals of providing opportunities for new residential and commercial development

and enhancing and upgrading of the waterfront areas, including new parkland on the waterfront to provide waterfront access and recreational opportunities.

Community Facilities and Services

Under the No Action Alternative, the residential population in the study area would experience some increases primarily as a result of the BSA-approved variances and other developments/conversions that are expected to occur on some of the identified projected development sites. As with the proposed action, these increases would not affect existing community facilities, including public intermediate and high schools, hospitals, public libraries, emergency and outpatient ambulatory services, police and fire protection. Unlike the proposed action however, the No Action Alternative would not result in significant adverse impacts on public elementary schools.

Open Space and Recreational Facilities

Under the No Action Alternative, fewer residents would be introduced to the proposed action area, while some open space facilities would be added. The open space facilities anticipated in the future without the proposed action include the creation of passive recreation space at the WNYC Transmitter site and at the Manhattan Avenue street end, passive open spaces provided by nearby waterfront residential developments unrelated to the proposed action, and East River State Park.

The total open space ratio under the No Action Alternative would be 0.596 acres per 1,000 residents for the entire ½-mile study area, 0.796 acres per 1,000 residents for the Greenpoint sub-area, and 0.514 acres per 1,000 residents for the Williamsburg sub-area (compared to ratios of 0.749, 0.824, and 0.712, respectively for the proposed action). The active open space ratio under the No Action Alternative would be 0.382 acres per 1,000 residents for the entire ½-mile study area, 0.429 acres per 1,000 residents for the Greenpoint sub-area, and 0.363 acres per 1,000 residents for the Williamsburg sub-area (compared to ratios of 0.431, 0.393, and 0.450, respectively for the proposed action). The passive open space ratio under the No Action Alternative would be 0.214 acres per 1,000 residents for the entire ½-mile study area, 0.367 acres per 1,000 residents for the Greenpoint sub-area, and 0.151 acres per 1,000 residents for the Williamsburg sub-area (compared to ratios of 0.318, 0.431, and 0.262, respectively for the proposed action).

The open space ratios for the ½-mile study area and the Williamsburg sub-area under the No Action Alternative would generally be substantially lower than those with the proposed action. However, in the Greenpoint sub-area, the active open space ratio would be higher under the No Action Alternative, whereas the passive and total open space ratios would be lower compared to conditions with the proposed action. Though the open space ratios under the No Action Alternative would increase from existing conditions, they would remain below DCP's guidelines for open space adequacy and citywide planning goals.

Shadows

Under the No Action Alternative, there would be no height limits in the areas where residential use is currently allowed as-of-right, and as such, it is possible that buildings constructed on the projected and

potential development sites under the No Action Alternative could, in some cases, be taller than those which could be built under the proposed action. As noted in Chapter 6, "Shadows," permits have recently been filed for two larger scale residential buildings within the action area located at 55 Eckford Street and 20 Bayard Street that would have heights of approximately 154 feet and 201 feet, respectively. In addition, as discussed in Chapter 1, "Project Description," under Scenario B, a 1,100-megawatt power plant would be developed on the former Bayside Fuel site under the No Action Alternative. The tallest proposed structure associated with the power plant would be a 325-foot exhaust tower. As such, the longest possible shadow cast would be 1,400 feet. The proposed structure would not impact any existing sun-sensitive resources, but would cast new incremental shadows on the proposed Inlet Park site, which lies directly north of the proposed TransGas site[1].

The shadows that would fall on new public spaces and existing open spaces and sunlight sensitive historic resources under the proposed action would not occur with this alternative, and as with the proposed action, no significant adverse shadow impacts would occur under the No Action Alternative.

Historic Resources

Architectural Resources

Under the No Action Alternative, it is expected that the current land use trends and general development patterns in the Greenpoint-Williamsburg area would continue. DCP has identified 30 of the 76 projected development sites on which development is projected to occur under both Scenario A and Scenario B pursuant to existing zoning or approved BSA variances by 2013 (on five additional sites, existing residential use is projected to continue). Development could also occur on 87 of the 264 potential development sites as-of-right pursuant to existing zoning under the No Action Alternative.

None of these developments/conversions would directly affect designated architectural resources, and all of the identified landmarked structures within the proposed action area would remain in their current state. It should be noted that development anticipated on Site 102 in the future without the proposed action would be adjacent to the lot containing the Russian Orthodox Cathedral. However, the development/ conversion would occur adjacent to the cemetery, not the structure. In addition, some of the structures on identified projected or potential development sites dating prior to 1900, could be converted, reactivated, or redeveloped under the No Action Alternative.

It is possible that some or all of the buildings identified as eligible for LPC or S/NR designation could become listed under the No Action Alternative. Privately owned properties that are NYC landmarks or S/NR-listed, or are pending designation as landmarks, are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition can occur. In addition, the City has procedures for avoiding damage to historic structures form adjacent construction. Therefore, the No Action Alternative would not result in significant adverse impacts to historic architectural resources.

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[1] *TransGas Energy Facility: Application for a Certificate of Environmental Compatibility and Public Need Pursuant to Article X of the New York State Public Service Law*. Volume 1, p. 4-42. Prepared by TRC Environmental Corporation, 2002.

Archeological Resources

LPC has determined that all or part of 91 sites, located on 66 blocks and comprising a total of 149 lots, had potential for the recovery of archaeological remains. Under the No Action Alternative, some of the sites identified as projected or potential development sites could experience development or conversion pursuant to existing zoning or approved BSA variances. These developments may result in soil disturbance that could destroy existing archaeological resources, such as cisterns or privies. No development would take place on the remaining sites under the No Action Alternative, and thus no subsurface disturbance would occur on those sites.

Therefore, the No Action Alternative may result in some impacts to potential archaeological resources that might be present on the projected or potential development sites, but such impacts would occur on fewer sites than under the proposed action.

Urban Design and Visual Resources

Under the No Action Alternative, the urban design and existing view corridors and views to visual resources in the proposed action area would not substantially change. Without the impetus of the increase in allowable density and the change in permitted uses that would result from the proposed action, substantial new construction is unlikely to occur in the proposed action area. However, unlike the proposed action, current zoning does not ensure that street walls in the upland areas are maintained or that overall building heights are consistent with existing development. While the overall urban design of the area, in terms of the type and bulk of buildings, would most likely be maintained to a great extent under this alternative, urban design characteristics of the area could change with anticipated as-of-right developments or BSA-approved developments, which would not be subject to height limits.

In addition, the No Action Alternative, by maintaining the manufacturing zoning districts along the waterfront, would not allow for the redevelopment or revitalization of this derelict East River waterfront, nor would it enhance pedestrian accessibility to the waterfront. This alternative would not meet the proposed action's goals of enhancing the appearance of the proposed action area through contextual zoning in upland areas and detailed urban design regulations for waterfront developments, which would unify urban design features and bridge gaps in the urban fabric, and of creating new developments that would enhance the vitality of the area, bring activity to currently vacant and underutilized land and buildings, and strengthen existing residential neighborhoods.

Neighborhood Character

Under the No Action Alternative, most of the uses currently on the projected development sites would remain, although approximately half of the projected sites would be expected to be redeveloped or converted under the No Action Alternative pursuant to existing zoning or BSA applications. In addition, a number of residential developments are planned within the proposed action area and the surrounding study area. New development that could occur under the No Action Alternative would not be subject to height limits, and therefore could result in new buildings that are out of scale with their immediate surroundings. While these developments could result in changes to the character of the areas immediately surrounding the projected development sites, under the No Action Alternative, the overall neighborhood character of the proposed action area would remain substantially the same as it is today.

No Action development in both Scenario A and B would be essentially identical, except that Scenario B assumes that a 1,100-megawatt power plant would be developed on the former Bayside Fuel site under No-Action conditions and would continue to occupy the site in the future with the proposed action. Under Scenario B, the development of a 1,100-megawatt power plant would likely result in changes in character to the immediate area. Urban design elements would change with the development of a new power plant as it would be of a substantially larger scale and bulk than surrounding uses and would be visible from parts of McCarren Park and from locations in and above the East River.

Overall, the more cohesive and revitalized Greenpoint-Williamsburg neighborhood expected to result from the proposed action would not be realized with the No Action Alternative.

Hazardous Materials

The No Action Alternative would involve building construction, additions and conversions. Construction of new buildings for as-of-right uses under the current zoning may occur without regulatory oversight such that environmental conditions on these sites are not addressed, and residual contamination could be encountered by construction workers or the general public without their knowledge. It is assumed that all construction and required removal or handling of hazardous materials would be conducted in accordance with applicable state and federal requirements, thereby minimizing the potential for exposure.

A greater amount of ground disturbance in areas where soil is contaminated from hazardous materials would occur under the proposed action compared with the No Action Alternative, as more in-ground disturbance is expected to occur with the proposed action. However, development under the proposed action would include subsurface investigations, tank removals, remediation, asbestos abatement, and construction in accordance with applicable state and federal requirements and under site-specific Sampling and Remediation Work Plans and Health and Safety Plans. Mechanisms to ensure that these actions occur with the proposed action include the placement of an (E) designation on lots that are neither City-owned nor intended for future City ownership.

Under the No Action Alternative, there would not be the testing and remediation requirements due to the proposed (E) designations that would be incorporated as part of the proposed action.

Infrastructure

Demands on local utility systems, including water supply and sewage treatment would remain generally the same as existing conditions. As with the proposed action, no significant adverse infrastructure impacts would occur under the No Action Alternative.

Solid Waste and Sanitation Services

Demands on solid waste and recycling would remain generally the same as existing conditions. As with the proposed action, no significant adverse solid waste/sanitation impacts would occur under the No Action Alternative.

Energy

Demands on local utility systems, including energy, would remain generally the same as existing conditions. As with the proposed action, no significant adverse energy impacts would occur under the No Action Alternative.

Traffic and Parking

In the No Action Alternative, traffic and parking demand levels in the study area would increase as a result of general background growth and future developments in the area. Under the No Action Alternative, six signalized intersections would experience congestion on one or more approaches in the AM peak hour, three in the midday, and 11 in the PM peak hour. This compares with four, three and eight congested intersections during these respective periods under existing conditions. Under the No Action Alternative, it is anticipated that demand for on-street parking would increase due to new developments and general background growth. In general, it is anticipated that in established commercial areas with high parking turnover, such as the vicinity of Manhattan Avenue and Greenpoint Avenue, or Bedford Avenue and North 7th Street, curbside parking supply would continue to be heavily utilized under the No Action Alternative, while parking supply in other parts of the study area, characterized mainly by low-density residential or industrial uses, would continue to amply satisfy the parking demand throughout the day.

Unlike the No Action Alternative, the proposed action would result in significant adverse traffic impacts at 10 signalized and three unsignalized intersections in one or more peak periods. The implementation of the proposed mitigation plan would entirely or partially eliminate all of the identified traffic impacts. No significant adverse impacts to on- or off-street parking conditions would result from either the proposed action or the No Action Alternative.

Transit and Pedestrians

Under the No Action Alternative, transit and pedestrian facilities in the proposed action area would experience an increase in demand as a result of background growth and future developments anticipated throughout the proposed action area. However, levels of service (LOS) at stairways and fare arrays at subway stations, local bus routes, sidewalks, corner areas, and crosswalks would remain largely the same compared with existing conditions.

Compared to the No Action Alternative, the proposed action would introduce more new transit trips to the proposed action area, resulting in a significant subway stair impact at one location as well as a significant adverse impact on line haul capacity on the L train in the AM peak hour, and an impact on one bus route in the PM peak hour. For bus operations, MTA NYC Transit's policy is to adjust bus frequency to address changes in demand and, as with the proposed action, this policy would also apply to the No Action Alternative. Also like the proposed action, there would be no impacts to the crosstown (G) Line, and there would be no pedestrian impacts under this alternative

Air Quality

No violations of the National Ambient Air Quality Standards (NAAQS) are predicted to occur either under the No Action Alternative or with the proposed action, and both alternatives would be consistent with the New York State Implementation Plan (SIP). Under the proposed action, no impacts are expected to occur from mobile sources, parking facilities, or HVAC systems. Concentrations of air toxics exceeding New York State Department of Environmental Conservation (NYSDEC) short-term and/or annual guideline concentrations (AGCs and SGCs, respectively) are expected to occur at certain development sites due to existing industrial air emission sources in the area. Under the proposed action, theses impacts require an (E) designation on the development sites. Under the No Action Alternative, these impacts and the need for an (E) designation would not occur.

Noise

Noise levels under the No Action Alternative would not be expected to be significantly higher than existing levels, and no significant adverse noise impacts would occur at the noise receptor locations in the study area. There would, however, not be the noise attenuation requirements due to the proposed (E) designations that would be incorporated as part of the proposed action. Therefore, new development under this alternative could result in noise impacts due to high ambient noise levels, which would not occur under the proposed action.

Construction Impacts

The No Action Alternative would not generate as much temporary construction disruptions attributable to the proposed action. However, under the proposed action, all construction would be governed by applicable city, state, and federal regulations regarding construction activities, avoiding significant adverse impacts in other areas. The No Action Alternative would result in less construction-related noise and traffic than the proposed action, but would not provide the economic benefits associated with the construction of the projected development sites.

Public Health

Neither the proposed action nor the No Action Alternative would result in significant adverse public health impacts.

Conclusions

The benefits expected from the proposed action on land use, urban design, and neighborhood character would not be realized under this alternative. In addition, the No Action Alternative would fall far short of the objectives of the proposed action in facilitating opportunities for new residential development; and enhancing the public environment, ground-floor uses, and streetscapes to make the proposed action area a more appealing place to live, work, and visit.

C. NO IMPACTS ALTERNATIVE

It is the City's practice to include, whenever feasible, a "No Impacts" alternative that avoids, without the need for mitigation, all significant environmental impacts of the proposed action. As presented in chapters 2 through 19, the proposed action is anticipated to result in significant adverse impacts in the following technical areas: community facilities (elementary schools), socioeconomic conditions (indirect residential displacement), open space, archaeological and architectural resources, traffic, and subway and bus transit. To avoid these potential impacts, this alternative would require a reduction in the number of net new dwelling units projected in the Greenpoint sub-area by approximately 97%, and a reduction in the net development program for the Williamsburg sub-area by 83%, for a an overall reduction of approximately 92% in the net number of additional dwelling units projected with the proposed action.

The No Impacts Alternative would result in a total of 1,459 dwelling units compared to the 8,257 units with the proposed action. Unlike the approximately 7,391 unit net development assumed on the projected development sites under the proposed action, this alternative would limit development on the projected development sites to a net of approximately 593 housing units compared to future No-Action conditions, approximately 142 units in Greenpoint and 451 units in Williamsburg. In addition, all of the sites identified as potentially sensitive for archaeological remains would be excluded from the proposed action area under this alternative.

The No Impacts Alternative would avoid the proposed action's identified significant adverse impacts. This No Impacts Alternative is not an acceptable alternative to the proposed action. By significantly reducing the number of sites to be developed and the overall level of development, particularly along the waterfront, this alternative would fail to meet the objectives of the proposed action, which include: the expansion of housing supply in an area that has been experiencing an increase in housing demand; facilitating the redevelopment of vacant and underutilized lots, especially those located along the waterfront; providing a framework to allow existing loft conversions to legalize; the creation of new parkland and public waterfront access associated with new residential development on the waterfront; and creating a vibrant, multi-use urban environment that serves the residents, businesses, and light industrial users of the Greenpoint-Williamsburg area and its surrounding communities.

Moreover, such an alternative would result in a highly irregular and impractical zoning map, and would therefore not be a feasible option for the City. Eliminating those sites identified for archaeological sensitivity from the rezoning area would leave pockets of manufacturing zoning districts within the larger rezoned residential and mixed-use contextual districts. As such, this alternative would not meet the goals and objectives of the proposed action. Accordingly, it is not considered for purposes of further analysis.

D. LESSER DENSITY ALTERNATIVE

This alternative was developed in response to suggestions during the public scoping process for the DEIS that an alternative be evaluated with lower density than the proposed action. This alternative is intended to assess whether development with lower density than the proposed action would result in impacts substantially different from those of the proposed action and whether it would meet the purpose and need for the proposed action identified in Chapter 1, "Project Description."

This alternative is the same as the proposed action except for the following:

- Amendments to the waterfront zoning text would produce an average FAR of 4.0 on waterfront sites where R6 and R8 districts are mapped (compared to an average FAR of 4.3 with the proposed action).
- Proposed zoning designations in specified upland areas include lower density residential designations. These areas, which are shown in Figure 23-1, include:
  - M1-2/R6B zoning along the west side of Franklin Street between Java and Oak Streets, and between Calyer and Quay Streets (compared to an M1-2/R6A designation in this area with the proposed action).
  - M1-2/R6A zoning on the block bounded by Bedford Avenue, North 12th Street, Driggs Avenue, and North 11th Street (compared to an M1-2/R7A designation in this area with the proposed action).
  - M1-2/R6B zoning on portions of the block bounded by Driggs Avenue, Eckford Street, Engert Avenue, and Leonard Street; and on portions of the blocks bounded by Engert Avenue, Graham Avenue, Bayard Street, Manhattan Avenue, and Eckford Street (compared to M1-2/R6A designation in this area with the proposed action).
  - M1-2/R6B zoning on portions of the blocks bounded by Bayard Street, Manhattan Avenue, Richardson Street, Leonard Street, Frost Street, Lorimer Street, Richardson Street, and Union Avenue (compared to an M1-2/R6A designation in this area with the proposed action).

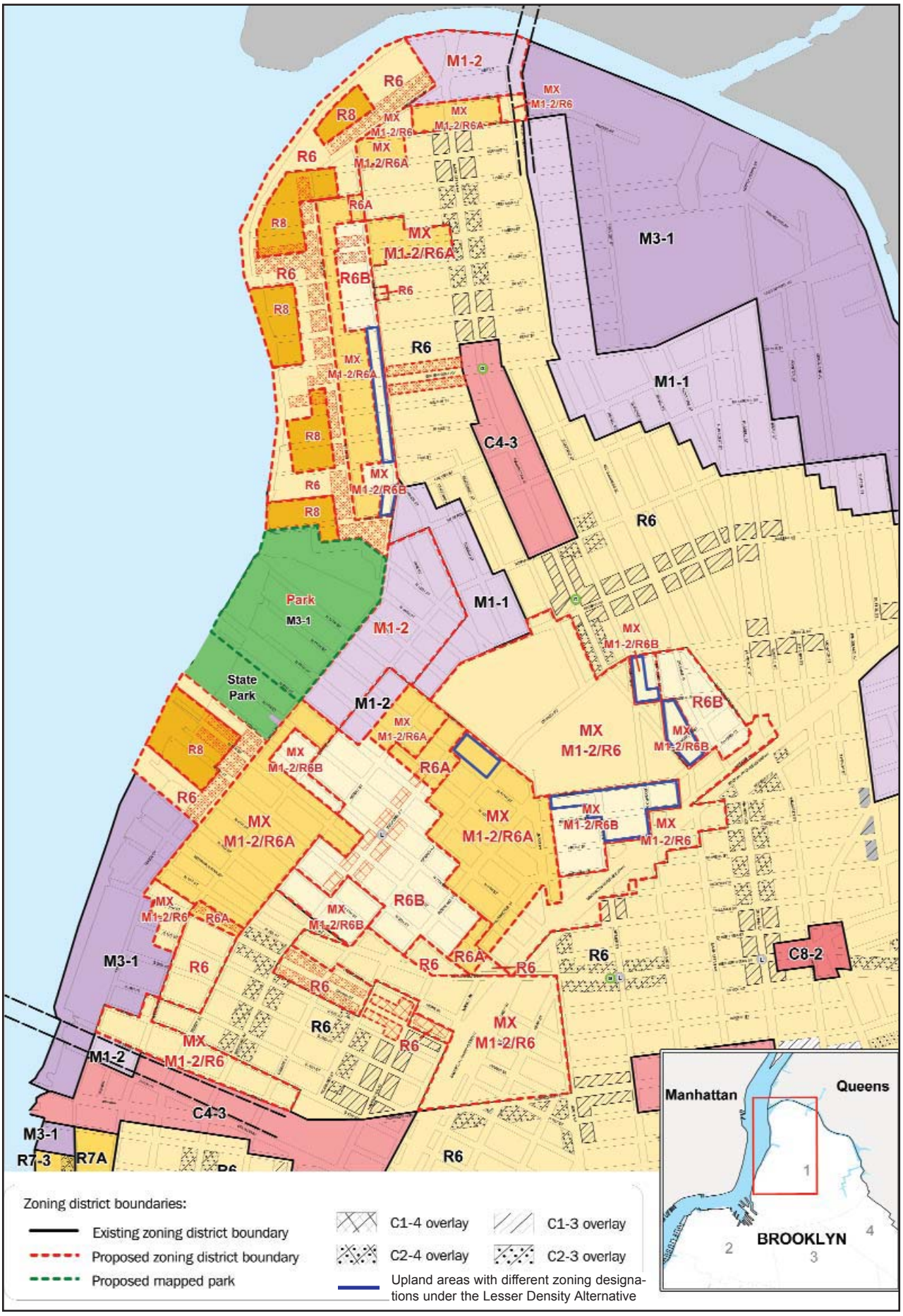
With the different zoning designations discussed above, the Lesser Density Alternative would result in a total of 7,731 dwelling units compared to 8,257 units with the proposed action (refer to Table 23-1 above). This represents a 6.4% reduction in total dwelling units. This alternative would result in approximately 5,143 units on the waterfront and 2,588 units on the upland projected sites, compared to 5,544 and 2,713, respectively with the proposed action, a 7.2% reduction in the number of units on the waterfront. Compared to future No-Action conditions, the Lesser Density Alternative would result in a net increment over the No-Action of approximately 6,865 units, compared to a net increment of 7,391 units with the proposed action.

The environmental effects of this alternative are summarized below and compared with the proposed action. It should be noted that for CEQR technical areas affected by density-related potential impacts (e.g, community facilities, open space, traffic, etc.), the effects of the Lesser Density Alternative have the potential to be smaller in magnitude as it would result in less dwelling units and therefore fewer residents than the proposed action. However, as the projected development sites for the Lesser Density Alternative are the same as for the proposed action, site-specific potential impacts (e.g., hazardous materials, archaeology) would be the same under both scenarios, as these relate to individual site conditions and are not dependent on the density of projected development.

Land Use, Zoning, and Public Policy

The overall effect of this alternative on land use, zoning, and public policy would generally be comparable to that of the proposed action. This alternative would support, to a lesser degree, the goals of the proposed action, but may render new development, and the public access improvements associated with waterfront development, less likely. Like the proposed action, this alternative would provide opportunities for new residential development in the area, while allowing the continuation of industrial uses, together with the residential re-use of underutilized and vacant land. However, this alternative would

Figure 23-1
Lesser Density Alternative



Source: NYC Department of City Planning (May 2004)

lead to the production of fewer housing units compared to the proposed action. Thus, the beneficial effects of the proposed action would not be as great under this alternative.

Socioeconomic Conditions

The Lesser Density Alternative would result in the same general socioeconomic effects as the proposed action, including the potential for significant indirect residential displacement. Under this alternative, 526 (6.4%) fewer new housing units would be added to the proposed action area. Compared to the No-Action scenario, the Lesser Density Alternative would still introduce approximately 6,865 net new housing units to the proposed action area, increasing the housing stock and population by over 80 percent in the rezoning area and 12.2% in the combined study area by 2013. As a result, indirect displacement pressures under the Lesser Density Alternative would be similar to those caused by the proposed action, and the mitigation measures required for the proposed action would also be required for this alternative.

The beneficial socioeconomic effects that an increased housing supply could produce would be somewhat less under the Lesser Density Alternative compared to the proposed action. With fewer residential units, the market may be less likely to meet the long-term demand for new housing in the area. However, the overall effects with respect to direct and indirect impacts of residents and businesses would be comparable to the proposed action.

Community Facilities and Services

The projected population increase in the study area under the Lesser Density Alternative would be lower than under the proposed action, and would therefore place a lesser demand on community facilities and services. However, this reduced demand would still result in a significant adverse impact on elementary schools. Under the Lesser Density Alternative, assuming the breakdown of development in the Greenpoint and Williamsburg sub-areas remains the same as with the proposed action (i.e., 78.5% of the projected waterfront units and 16.4% of the upland units would occur in Greenpoint and 21.5% of the waterfront units and 83.6% of the upland units would be in Williamsburg), the utilization of elementary schools within the Greenpoint sub-area would increase from 78 percent in the No-Action to 131 percent, a shortfall of 687 elementary school seats within the Greenpoint sub-area (compared to an increase to 135% and a deficiency of 778 seats with the proposed action). Given that there are not sufficient available seats for the additional elementary school students that would be introduced to the Greenpoint sub-area, the Lesser Density Alternative, like the proposed action, is expected to create a significant adverse impact on elementary schools in this sub-area.

The utilization rate for elementary schools in the Williamsburg sub-area would increase from 83 percent to 93 percent, with 421 available seats, whereas the utilization rate for elementary schools within the ½-mile study area, which encompasses the Greenpoint and Williamsburg sub-areas, would increase from 81 percent to 103 percent, a shortfall of 266 elementary school seats within the study area. As most of this shortfall could be accommodated in available intermediate school space, this alternative is not likely to have a significant adverse impact on elementary schools within the study area as a whole under the Lesser Density Alternative. Similar to the proposed action, there would be no impacts on public intermediate or high schools, hospitals, public libraries, day care centers, public emergency and outpatient ambulatory care facilities, police and fire protection in the area under this Lesser Density Alternative.

Open Space

The overall effect of this alternative on open space resources would generally be similar to, although slightly less than, the effects of the proposed action. While the projected net increase in residents under the Lesser Density Alternative would be smaller than under the proposed action (15,584 compared with 16,778 residents), as with the proposed action, it would result in additional demand on available open spaces. Under Scenario A, all of the open space ratios would increase, except within the Greenpoint sub-area, where the total open space ratio would increase by 5.2%, the active open space ratio would decrease by 7.0%, and the passive open space ratio would increase by 19.3% (compared to an increase of 3.5% in the total ratio, a decrease of 8.4% in the active ratio, and an increase of 17.4% in the passive ratio with the proposed action). Given the increase in the total open space ratio, and the availability of other qualitative factors (provision of waterfront access for example) which would offset the decrease in the active open space ratio, no significant adverse impact is anticipated within Greenpoint under Scenario A under this alternative.

Under Scenario B, the Greenpoint sub-area would undergo a decrease in its total open space ratio of 8.9%, a decrease in the active open space ratio of 20.0%, and a 4.1% increase in the passive open space ratio (compared to a decrease of 10.3% in the total ratio, a decrease of 21.2% in the active ratio, and an increase of 2.5% in the passive ratio with the proposed action). Therefore, as with the proposed action, the Lesser Density Alternative, with an 8.9% decrease in the total open space ratio, would also result in a significant open space impact in the Greenpoint sub-area under Scenario B, and would require the same mitigation measures as the proposed action.

Historic Resources

Under the Lesser Density Alternative, development could potentially occur on the same 76 projected development sites and 262 of the potential development sites identified for the proposed action (potential development Sites 77 and 134 would no longer satisfy soft site criteria under this alternative, as they would contain more than 50% of the proposed FAR). Therefore, there is the same potential for disturbance of archaeological resources on those sites identified in the archaeological assessment for the proposed action, and the same significant adverse unmitigated impacts could occur. As with the proposed action, this alternative would result in the conversion of the Hecla Iron Works Building, which was recently designated as a NYC landmark by LPC, and several other structures identified as potentially eligible for LPC and/or S/NR designation, and could also result in the demolition, either in part or entirely, of the buildings comprising the Greenpoint Terminal Market, which is eligible for designation. Like the proposed action, the Lesser Density Alternative could result in significant direct or indirect impacts to architectural resources.

Shadows

Under the Lesser Density Alternative, the maximum allowable building heights would be the same for most sites as with the proposed action. As such, the shadow effects of projected and potential developments in the proposed action area would be essentially the same as with the proposed action. As with the proposed action, the Lesser Density Alternative would not result in any significant adverse shadow impacts.

Urban Design and Visual Resources

Changes to the visual character of the proposed action area and its relationship to the study area that would occur with the proposed action would also occur under this alternative. Some of the identified development sites would be developed with new structures (the others consisting of conversions and expansions). Figure 23-2 (a and b) provides illustrative bulk diagrams of the waterfront projected and potential development sites in Greenpoint and Williamsburg for both the proposed action and the Lesser Density Alternative. As shown in the figure, the development resulting from this alternative would be very similar to that with the proposed action, although building heights for low-rise buildings on waterfront blocks would be somewhat lower than under the proposed action. As with the proposed action, the Lesser Density Alternative would reinforce the urban design characteristics of the proposed action area by replacing vacant lots and open uses with new medium-density residential development, and strengthening of uniform street walls. Neither this alternative nor the proposed action would adversely affect the urban design or visual character in the area.

Neighborhood Character

Effects on neighborhood character would be similar under this alternative to those of the proposed action. The increase in activity that would be introduced to the area (mostly associated with additional residents), and the changes in urban design and visual resources and socioeconomic conditions, although proportionally less than with the proposed action, would still constitute a noticeable change in the area's character. As with the proposed action, the area would become a more vibrant mixed-use community with a larger residential and neighborhood retail presence leading to increased pedestrian traffic and street activity under the Lesser Density Alternative. Overall, neither this alternative nor the proposed action would result in significant adverse impacts on neighborhood character.

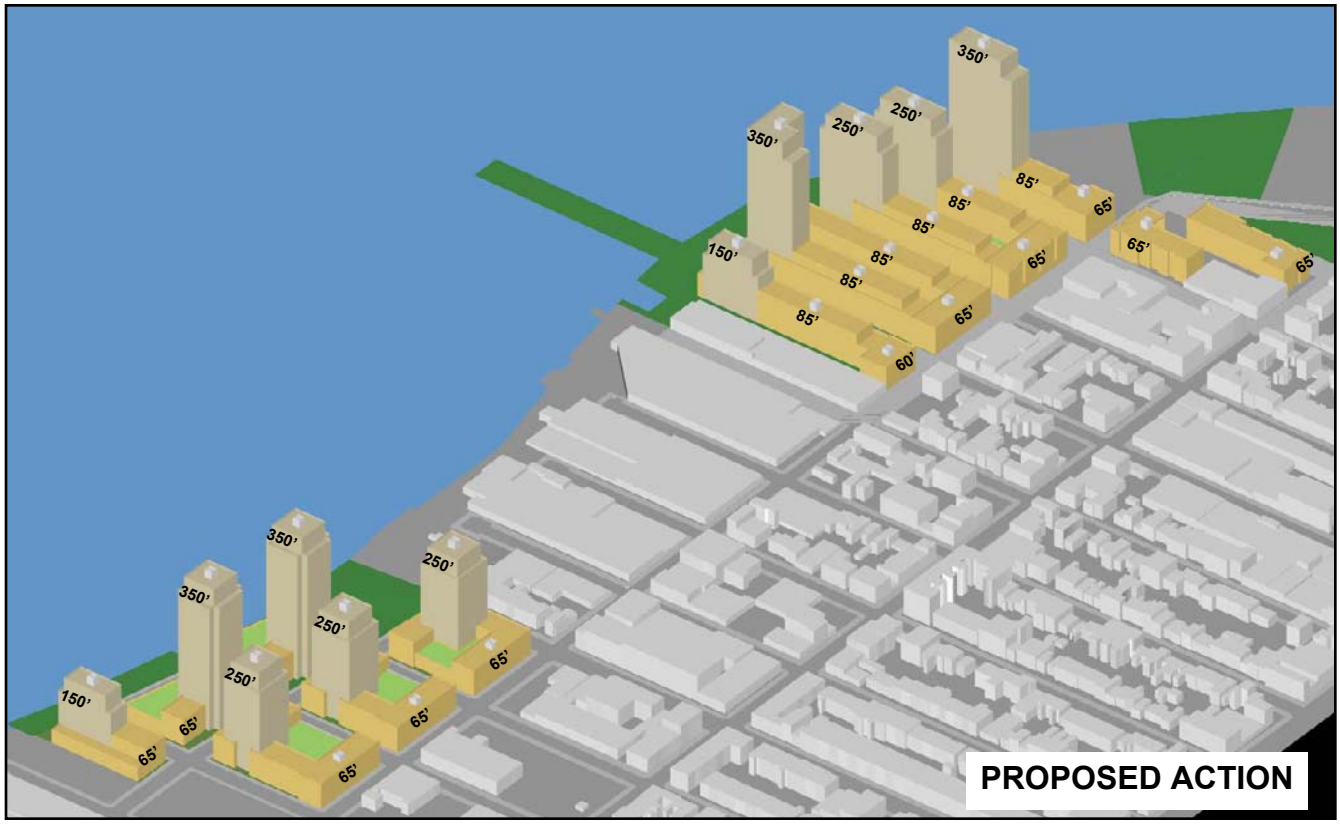
Hazardous Materials

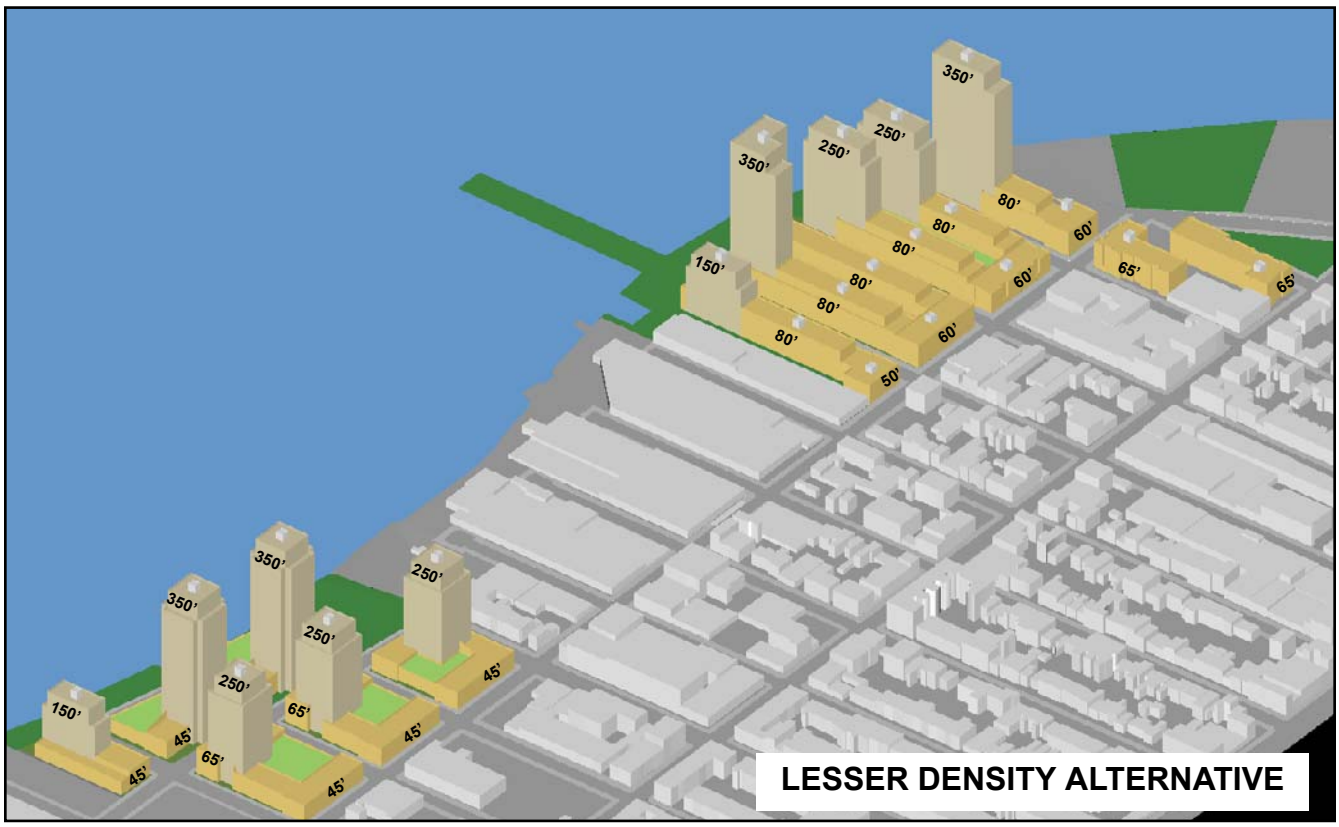
The effects of the Lesser Density Alternative with respect to hazardous materials issues is expected to be identical to those of the proposed action. While this alternative results in a decrease in development bulk and related density impacts, the potential for site-specific hazardous materials impacts still remains. As with the proposed action, all of the projected and potential development sites have identified conditions that may pose a significant adverse impact under the Lesser Density Alternative. As with the proposed action, all of the projected and potential development sites would receive an (E) designation under the Lesser Density Alternative, with the exception of the site of the proposed park, which would undergo all required testing and necessary remediation measures following acquisition and prior to construction.

Traffic and Parking/Transit and Pedestrians

The Lesser Density Alternative would generate 6.4% fewer person trips than the proposed action, due to its reduced density. Compared with the proposed action, the Lesser Density Alternative would decrease transportation demand in the area by approximately 8%. As this alternative would generate fewer vehicular trips than the proposed action, it would have similar, but lesser, traffic effects to those with the proposed action. However, this alternative would not eliminate any of the identified traffic impacts

Illustrative Bulk Diagrams for Lesser Density Alternative - Greenpoint





LEGEND:

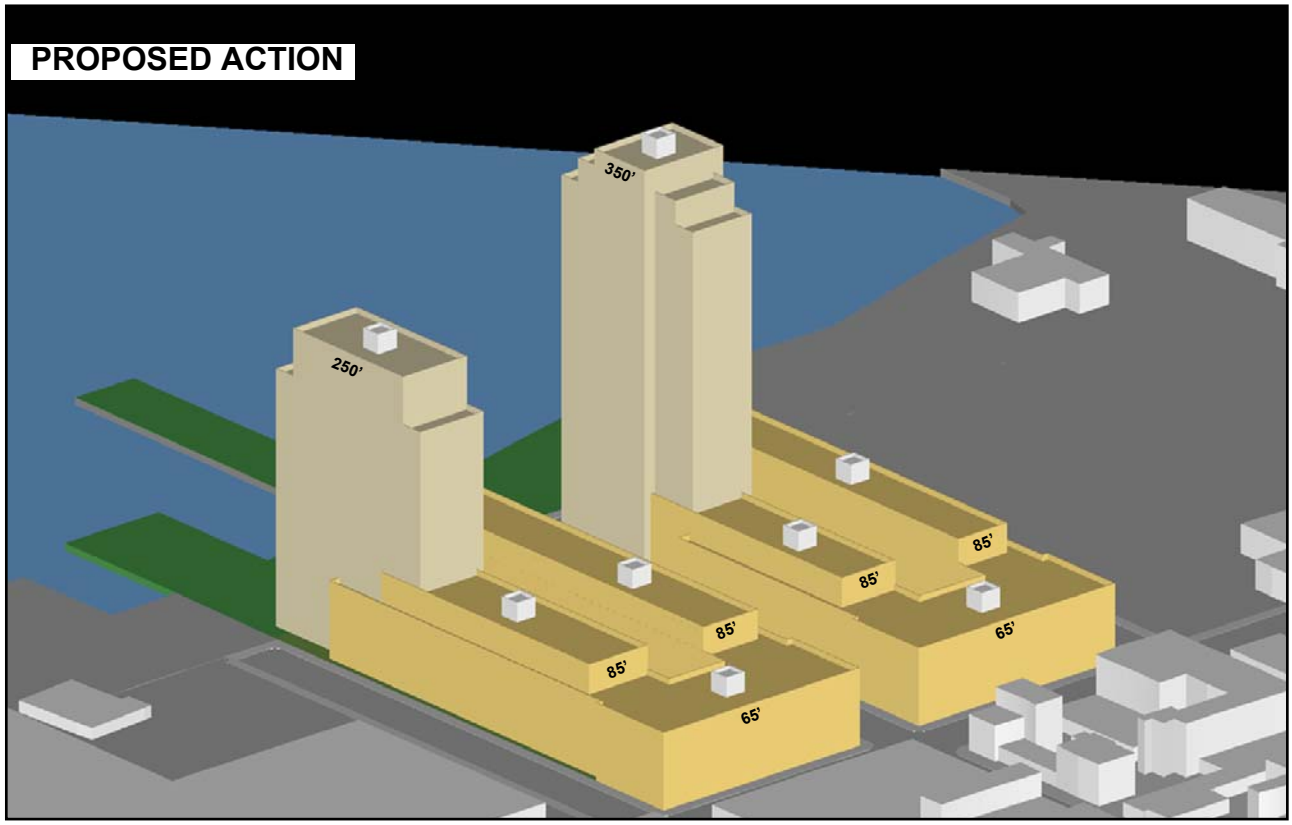
Building Base

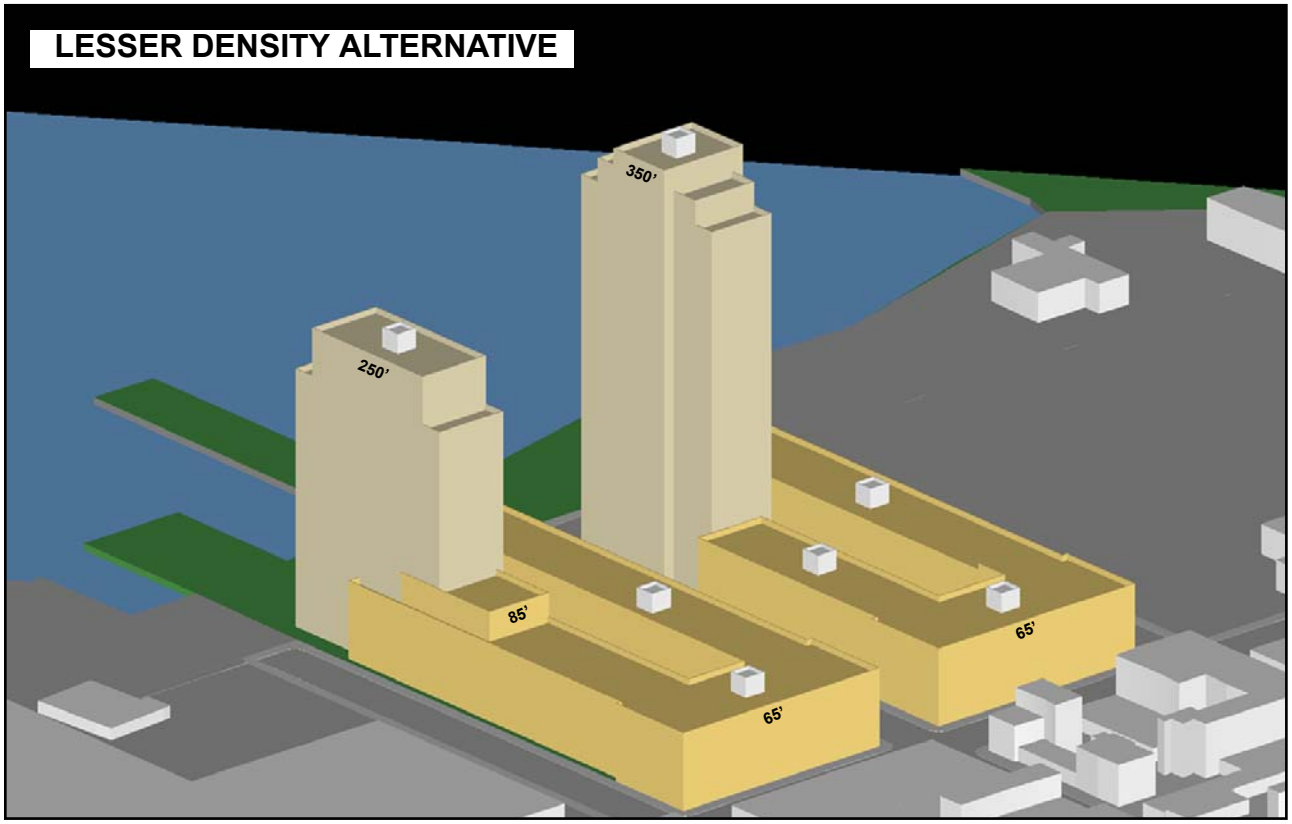
Building Tower

Open Space

Private Open Space

Illustrative Bulk Diagrams for Lesser Density Alternative - Williamsburg





LEGEND:

- Building Base
- Building Tower
- Open Space
- Private Open Space

associated with the proposed action and there would continue to be 13 impacted locations (10 signalized and three unsignalized) in one or more peak hours. In addition, all subway stair, line haul capacity and bus transit impacts due to the proposed action would remain with this alternative. Therefore, all mitigation measures required for the proposed action would also be required for this alternative.

Air Quality

Under both this alternative (which would have fewer units) and the proposed action, no violations of the National Ambient Air Quality Standards (NAAQS) are predicted to occur and both alternatives would be consistent with the New York State Implementation Plan (SIP). Under the proposed action, no impacts are expected to occur from mobile sources, parking facilities, or HVAC systems. Concentrations of air toxics exceeding NYSDEC AGCs and/or SGCs are expected to occur at certain development sites due to existing industrial air emission sources in the area. Under the proposed action, theses impacts require an (E) designation on the development sites. Under the Lesser Density Alternative, it is expected that a similar number of sites would need the (E) designation due to these existing sources. The (E) designations for HVAC systems required for the proposed action would also be required for this alternative.

Other Technical Areas

Under this alternative, development would occur at slightly lower density than with the action-induced development. The demand on the City's water and sewer infrastructure as well as demand on the City's solid waste and sanitation and energy services would therefore be somewhat less than that of the action-induced development. As with the proposed action, the Lesser Density Alternative would not result in significant adverse impacts on infrastructure, solid waste and sanitation services or energy services. The Lesser Density Alternative would result in similar, but smaller effects on all other technical areas, compared to the proposed action, including natural resources, and noise.

Conclusions

Overall, the Lesser Density Alternative with a 6.4% reduction in the total number of dwelling units would have similar, but slightly smaller effects on the environmental areas analyzed, compared to the proposed action. The slightly lower development density projected under this alternative would avoid a significant adverse impact on public elementary schools in the study area as a whole, but would not eliminate the significant adverse impacts identified for the proposed action in the areas of archaeological resources, indirect residential displacement, public elementary schools in the Greenpoint sub-area, open space, traffic, subway stair, or subway line haul and would require the same mitigation measures as the proposed action. The Lesser Density Alternative would meet, albeit to a lesser extent, the objectives of the proposed action in facilitating opportunities for new residential development; and enhancing the public environment, ground-floor uses, and streetscapes to make the proposed action area a more appealing place to live, work, and visit.

E. ADDITIONAL WATERFRONT DEVELOPMENT (AWD) ALTERNATIVE

This alternative was developed in response to suggestions from property owners during the public scoping process for the DEIS that residential zoning be evaluated for the southernmost blocks of the proposed waterfront park site. This alternative is intended to assess whether the residential development of these blocks, instead of the park mapping that would occur under the proposed action, would result in impacts substantially different from those of the proposed action and whether it would meet the purpose and need for the proposed action identified in Chapter 1, "Project Description."

This alternative is the same as the proposed action except for the following:

- The middle and southern segments of the proposed "Inlet Park" are not mapped as park, and North 9th, North 10th, and North 11th Streets are not demapped.
- The blocks between North 9th and North 12th Street are zoned with R6 and R8 districts, with an average of 4.3 FAR over each parcel. A C2-4 commercial overlay is mapped along the Kent Avenue frontage of these three blocks (refer to map in Figure 23-3). The Waterfront Access Plan would include requirements for a widened shore public walkway on these blocks.

Under this alternative, projected residential development would occur on the clocks between North 10th and North 12th Streets, and potential residential development could occur on the block between North 9th and North 10th Streets. As shown in Table 23-1, the development scenario for this alternative includes 9,787 projected housing units (compared to 8,257 with the proposed action), which would result in a net increment of 8,921 units from No-Action conditions (compared to a net increment of 7,391 units with the proposed action), which is a 20.7% increase versus the proposed action. As with the proposed action, all of the units under this alternative are assumed to be unsubsidized.

This alternative, in which the middle and southern segments of the proposed "Inlet Park" are not mapped as park, would also result in a smaller park than the proposed action under Scenario A, and no new park at all under Scenario B. Under Scenario A, this alternative would map only the northeastern and northwestern segments of the proposed park, which would result in a park with a mapped area of approximately 11.9 acres (compared to 27.8 acres with the proposed action). Under Scenario B, the northern segments of the proposed park would not be mapped either, as the TransGas power plant is assumed to occupy the Bayside Fuel site. Under both scenarios, the additional waterfront development projected under this alternative would add approximately 1.46 acres of passive open space (approximately 17.6% of the lot area) in the form of a promenade and other waterfront access required by waterfront zoning regulations.

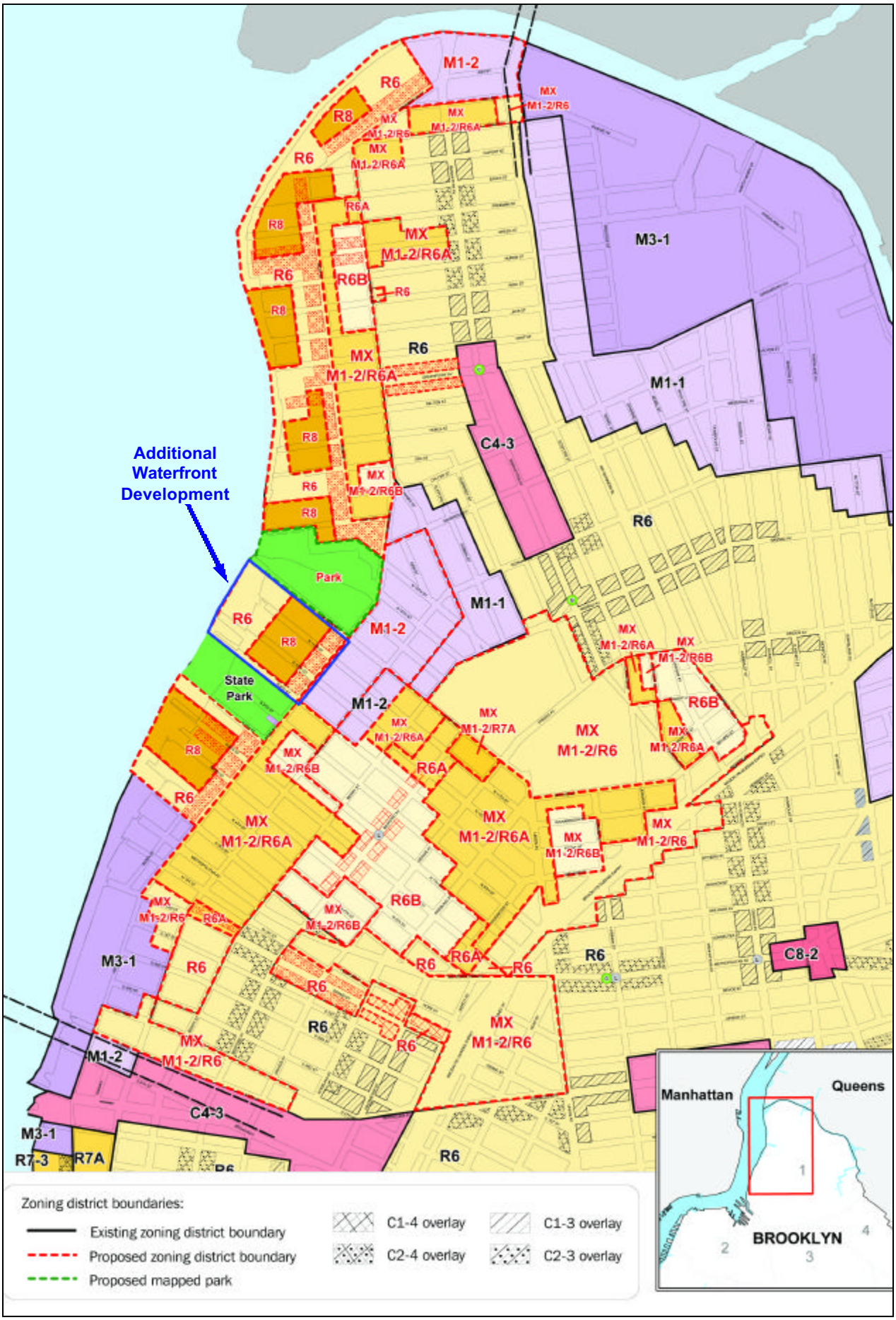
Land Use, Zoning, and Public Policy

As with the proposed action, this alternative would not result in significant adverse impacts on land use, zoning, and public policy.

Socioeconomic Conditions

The Additional Waterfront Development Alternative would result in the same general socioeconomic effects as the proposed action. Under this alternative, there would be additional housing units along the

Figure 23-3
Additional Waterfront Development Alternative



Source: NYC Department of City Planning (May 2004)

waterfront added to the proposed action area, which would result in a 16% increase in the combined study area population, and in a 114% increase in the proposed action area population. The beneficial socioeconomic effects that an increased housing supply could produce would therefore be furthered as compared with the effects of the proposed action. The effects with respect to direct and indirect impacts of residents and businesses would be comparable to the proposed action, and the same measures required to mitigate the indirect residential displacement impact under the proposed action would be required under this alternative.

Community Facilities and Services

The projected population increase in the study area under the AWD Alternative would be higher than under the proposed action, and would therefore place a greater demand on community facilities and services, as well as most other density-based technical areas.

The projected population increase in the study area under the AWD Alternative would be greater than under the proposed action, particularly in the Williamsburg sub-area, which would experience a 57.7% increase in the number of net additional dwelling units compared to the proposed action. As such, this alternative could place greater demand on community facilities and services than the proposed action.

Public Schools

The AWD Alternative would generate approximately 2,409 elementary school students and 892 intermediate school students, for a total of 3,301 primary school students by the year 2013 within the entire ½-mile study area. In addition, these residential developments would also generate approximately 535 high school students within the ½-mile study area by 2013 (see Table 23-2).

Under this alternative, the utilization of elementary schools within the Greenpoint sub-area would be identical to that with the proposed action, with an increase from 78 percent in the No-Action to 135 percent, a shortfall of 778 elementary school seats within the Greenpoint sub-area (see Table 23-3). As with the proposed action, the Additional Waterfront Development Alternative is expected to create a significant adverse impact on elementary schools in this sub-area, and the same mitigation measures would be required.

TABLE 23-2
Public School Students Generated by AWD Alternative*

	No. of Dwelling Units	P.S. Students	I.S. Students	High School Students
Greenpoint Sub-Area	4,739	1,280	474	284
Williamsburg Sub-Area	4,182	1,129	418	251
TOTAL	**8,921**	**2,409**	**892**	**535**

**Student generation rates are based on the CEQR Technical Manual's Table 3C-2: "Projected Public School Pupil Ratios in New Housing Units of All Sizes" for high income households*

As shown in Table 23-3, with the AWD Alternative, the utilization rate for elementary schools in the Williamsburg sub-area would increase from 83 percent to 101 percent, a shortfall of 44 elementary school

seats within the Williamsburg sub-area (compared to an increase to 94% and 369 available seats with the proposed action). Given the projected availability of intermediate school seats in the Williamsburg sub-area (see Table 23-3) and the potential for school reorganization, the AWD Alternative is not likely to have a significant adverse impact on elementary schools in the Williamsburg sub-area.

The utilization rate for elementary schools within the ½-mile study area, which encompasses the Greenpoint and Williamsburg sub-areas, would increase from 81 percent to 110 percent with the Additional Waterfront Development Alternative, a shortfall of 822 elementary school seats within the study area (compared to an increase to 105% and a deficiency of 409 seats with the proposed action). Although part of this shortfall could be accommodated in available intermediate school space, this would constitute a significant adverse impact on elementary schools within the study area as a whole under the AWD Alternative.

Like the proposed action, the AWD Alternative is not anticipated to result in significant adverse impacts on intermediate schools (see Table 23-3). The AWD Alternative could add 535 high school students to the study area by 2013, however, as with the proposed action, no significant adverse impacts would be expected in Brooklyn as a result of the AWD Alternative.

TABLE 23-3
Future with AWD Alternative: Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in 2013

ELEMENTARY SCHOOLS	No-Action Projected Enrollment in 2013	Students Generated by AWD Alternative	Total Projected Enrollment	Capacity	Seats Available	Percent Utilization
Total for Greenpoint Sub-Area	1,730	1,280	3,010	2,232	-778	135%
Total for Williamsburg Sub-Area	5,229	1,129	6,358	6,314	-44	101%
Total for Study Area	6,959	2,409	9,368	8,546	-822	110%
Total for Elementary Schools in CSD14	**10,838**	**2,409**	**13,247**	**16,549**	**3,302**	**80%**
INTERMEDIATE SCHOOLS	**No-Action Projected Enrollment in 2013**	**Students Generated by AWD Alternative**	**Total Projected Enrollment**	**Capacity**	**Seats Available**	**Percent Utilization**
Total for Greenpoint Sub-Area	533	474	1,007	1,253	246	80%
Total for Williamsburg Sub-Area	2,112	418	2,530	3,706	1,176	68%
Total for Study Area	2,645	892	3,537	4,959	1,421	71%
Total for Intermediate Schools in CSD14	**3,453**	**892**	**4,345**	**7,543**	**3,197**	**58%**

Libraries

By 2013, a net increase of 20,251 new residents would be added to the proposed action area as a result of the AWD Alternative (compared to 16,778 with the proposed action), which would increase the study area population by approximately 14.8% over No-Action conditions. As a result, the library volumes to resident ratio would decrease somewhat from the future No-Action condition, from 2.02 to 1.75 per resident (compared to 1.79 with the proposed action). Although this alternative would result in a greater

than 5 percent increase in population over No-Action conditions, it is anticipated that no significant adverse impacts on libraries within the study area would occur. As with the proposed action, the BPL would continue to evaluate its library utilization rates within the study area based on various factors, including population, circulation, program attendance, and computer usage, to determine if additional library services would be needed. In addition, based on BPL's plans to expand and strengthen its branch collections, and to replace or expand the Greenpoint Branch, it is expected that the proposed action area, currently served by three library branches, would adequately serve the expanded population in the study area resulting from either the proposed action or the Additional Waterfront Development Alternative.

Other Community Facilities

As this alternative would not introduce low-to moderate-income housing, like the proposed action, it is not anticipated to result in increased demand on day care centers or emergency and outpatient ambulatory services. Like the proposed action, the new residential population (which would be approximately 20.7% more than that introduced by the proposed action) as well as the worker and visitor populations introduced by the AWD Alternative, could increase the demand for police and fire protection services. As with the proposed action, the NYPD would determine deployment of additional personnel after careful contemplation of crime trends, population, and the amount of 911 calls that are received in an area. While the additional development that would occur as a result of the either the proposed action or the Additional Waterfront Development Alternative would require additional resources in the area from the NYPD, the NYPD would be able to allocate resources as necessary and along with the pace of development. Likewise, FDNY regularly conducts reviews of call volumes throughout the City, and the FDNY would continue to evaluate area operations over time, typically on a semi-annual or annual basis. As such, it is anticipated that additional fire and EMS units would be allocated as necessary to serve the new developments introduced by either the proposed action or the AWD Alternative.

Open Space

As discussed above, this alternative would increase the population introduced into the study area, while decreasing the open space to be provided by the proposed action. Under Scenario A, this alternative would map only the northeastern and northwestern segments of the proposed park, which would result in a park with a mapped area of approximately 11.9 acres (compared to 27.8 acres with the proposed action). For quantitative analysis purposes, this smaller park is assumed to be equally divided between the Greenpoint and Williamsburg sub-areas. Under Scenario B, the northern segments of the proposed park would not be mapped either, as the TransGas power plant is assumed to occupy the Bayside Fuel site. As noted above, under both scenarios, this alternative would add approximately 1.46 acres of passive open space to the Williamsburg sub-area, in the form of a promenade and other waterfront access required by waterfront zoning regulations affecting the additional waterfront development projected under this alternative.

Therefore, under Scenario A, the passive and total open space ratios would increase relative to No-Action conditions for both sub-areas as well as the ½-mile study area as a whole. However, the active open space ratios would decrease by 7.5% in the Greenpoint sub-area, by 1.4% in the Williamsburg sub-area, and by 2.9% in the overall study area. However, given the moderate increases in the total open space ratios (4.5% in Greenpoint, 6.6% in Williamsburg, and 7.4% in the ½-mile study area), no significant adverse open space impacts are anticipated under Scenario A with this alternative. It should be noted however that, unlike the proposed action, this alternative would result in a reduction in active open space ratios, not only in Greenpoint, but in Williamsburg and the overall study area as well.

Under Scenario B, the Greenpoint sub-area would undergo a decrease in its total open space ratio by 10.3%, a decrease in the active open space ratio by 21.2%, while the passive open space ratio would increase by 2.5% (compared to a decrease of 10.3% in the total ratio, a decrease of 21.2% in the active ratio, and an increase of 2.5% in the passive ratio with the proposed action). In the Williamsburg sub-area, the total and active open space ratios would decrease (by 4.1% and 9.1%, respectively), while the passive open space ration would increase by 7.3% (compared to *increases* of 15.4%, 53%, and 26.5% with the proposed action). In the ½-mile study area, the active open space ratio would decrease by 12.8%, and the total open space ratio would decrease by 5.4%, whereas the passive open space ratio would increase by 7.9% (compared to increases of 2.6%, 12.6% and 30.4%, respectively, with the proposed action). Therefore, whereas the proposed action would result in a significant adverse impact under Scenario B only within the Greenpoint sub-area, the AWD Alternative would result in significant adverse impacts under Scenario B for the Greenpoint and Williamsburg sub-areas, as well as for the ½-mile study area as a whole, and additional mitigation measures would be required under this alternative.

Shadows/Urban Design and Visual Resources

Under the AWD Alternative, the middle and southern segments of the proposed "Inlet Park" would not be mapped as park. Instead, the blocks between North 9th and North 12th Street would be zoned with R6 and R8 districts, with an average of 4.3 FAR over each parcel, resulting in a waterfront development similar to those projected on other waterfront sites. Figure 23-4 provides an illustrative bulk diagram of this possible additional development under the AWD Alternative.

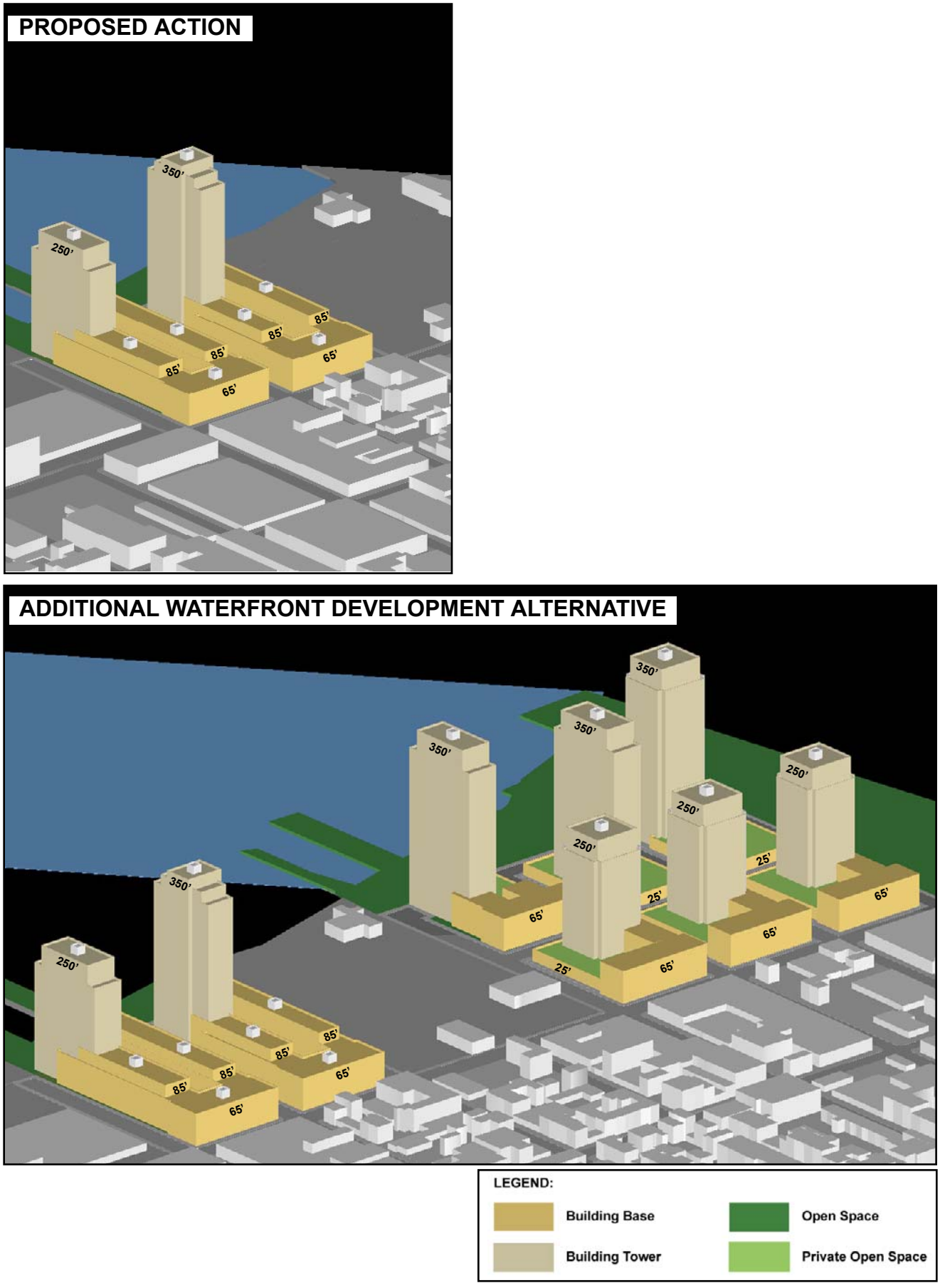
By adding a waterfront development site, which, like other waterfront sites projected with the proposed action, could be developed with residential towers ranging from 150 to 350 feet in height, this AWD Alternative would increase the shadows cast by the proposed action, as there would be more towers along the waterfront casting shadows in an approximate quarter mile radius. This development would also alter the urban design and visual character of the waterfront. Whereas the proposed action would provide much needed open space on this site, this alternative would create higher density in the waterfront area than would occur with the proposed action, as illustrated in Figure 23-4. This additional development, which, as illustrated in Figure 23-4, could accommodate up to 6 residential towers, would make this alternative less compatible with the surrounding urban design context compared to the level of development that would be allowed under the proposed action. As with the proposed action, this alternative would not result in significant adverse impacts.

Traffic and Parking/Transit and Pedestrians

This alternative is expected to increase the overall number of units and travel demand by approximately 20.7%, leading to an approximately 22% increase in project generated demand, with a heavier increase along the Kent Avenue corridor. An evaluation was done for the transportation system to assess the effect of this alternative. The evaluation showed that there would likely be one newly impacted traffic intersection with this alternative– McGuinness Boulevard and India Street. This would increase the total number of impacted intersections to 14, versus 13 for the proposed action. Further, all impacts due to the proposed action would be exacerbated by this alternative.

For subway conditions, the stairway and line haul impacts would remain but would be substantially exacerbated, while the B61 bus route would continue to be impacted. No new pedestrian impacts are anticipated.

Illustrative Bulk Diagrams for Additional Waterfront Development Alternative



Mitigation measures identified for the proposed action, such as signal timing adjustments and curbside parking changes, would also be required for this alternative, but would need to be adjusted/expanded to accommodate the additional travel demand generated by this alternative. New mitigation measures would be needed for the newly impacted intersection.

Air Quality and Noise

Under both this alternative and the proposed action, no violations of the National Ambient Air Quality Standards (NAAQS) are predicted to occur and both alternatives would be consistent with the New York State Implementation Plan (SIP). Under the proposed action, no impacts are expected to occur from mobile sources, and parking facilities. Although this alternative results in somewhat more housing units, it is not expected that the increase in traffic from these additional housing units would result in violations of air quality standards given that conditions with the proposed action are well below the standard (the increase in housing units is unlikely to add traffic that would cause air quality violations). As stated above, this alternative is expected to increase the overall number of units and travel demand by approximately 20.7%, leading to an approximately 22% increase in project generated demand, with a heavier increase along the Kent Avenue corridor. An evaluation was done for the transportation system to assess the effect of this alternative. While there would be additional traffic associated with this alternative, air modeling has shown that the recorded concentrations for CO in the area are low enough such that this additional increase in traffic may not result in any exceedances of standards or the City's de minimis criteria. However, certain locations may require additional air quality analysis. The same (E) designations required for HVAC systems under the proposed action would be required under this alternative. The increases in traffic, however, are not expected to result in any significant increases in local ambient noise or a doubling of traffic at any intersection such that an impact would occur. With respect to the need for noise attenuation, the proposed (E) designations would be the same as under the proposed action since the development sites would be the same. Like the proposed action, impacts are expected to occur at certain development sites with respect to potential impacts due to existing industrial air emission sources in the area. Under the proposed action, these impacts require an air quality (E) designation on the development sites. Under the Additional Waterfront Development Alternative, it is expected that a similar number of sites would need the (E) designation due to these existing sources.

Other Technical Areas

Under the AWD Alternative, development could potentially occur on the same 76 projected and 264 potential development sites identified for the proposed action. Therefore, site-specific potential impacts, which relate to individual site conditions and are not dependent on the density of projected development, would be the same under this alternative as with the proposed action. For example, the effects of the AWD Alternative on archaeological resources and hazardous materials conditions would be the same as the proposed action. It should be noted however, that for the site of the additional waterfront development (Site 211), which would be entirely developed as a public park with the proposed action, the AWD Alternative would result in more pronounced site-specific effects, particularly in terms of construction-related effects.

Effects on neighborhood character would be similar under this alternative to those of the proposed action. The increase in activity that would be introduced to the area (mostly associated with additional residents), and the changes in urban design and visual resources and socioeconomic conditions, which would be proportionally greater than with the proposed action, would constitute a more noticeable change in the

area's character. As with the proposed action, the area would become a more vibrant mixed-use community with a larger residential and neighborhood retail presence leading to increased pedestrian traffic and street activity under the AWD Alternative. However, this alternative would result in a much smaller park under Scenario A (and no park at all under Scenario B), thereby eliminating a major neighborhood amenity that would be provided by the proposed action.

Under this alternative, development would occur at higher density than with the action-induced development. The demand on the City's water and sewer infrastructure as well as demand on the City's solid waste and sanitation and energy services would therefore be somewhat greater than that of the action-induced development. However, as with the proposed action, the AWD Alternative would not result in significant adverse impacts on infrastructure, solid waste and sanitation services, or energy services.

The AWD Alternative would result in similar, but somewhat greater effects on all other technical areas, compared to the proposed action, including natural resources. However, this alternative is not expected to result in significant adverse impacts in any of those areas.

Conclusions

As discussed above, the AWD Alternative would result in similar but greater effects on most of the technical areas analyzed in this EIS. While site-specific potential impacts in areas such as hazardous materials and archaeology would be the same under this Alternative as with the proposed action, for density-related potential impacts, the effects of the AWD Alternative have the potential to be greater in magnitude as this alternative would result in more dwelling units and therefore more residents than the proposed action. As a result, the AWD is expected to result in greater impacts on public elementary schools, open space resources, and traffic. All of the traffic and transit mitigation measures required for the proposed action would also be required for this alternative, but would need to be adjusted/ expanded to accommodate the additional travel demand generated by this alternative, and new mitigation measures would be needed for the newly impacted intersection. The AWD Alternative would meet the objectives of the proposed action in facilitating opportunities for new residential development; and enhancing the public environment, ground-floor uses, and streetscapes to make the proposed action area a more appealing place to live, work, and visit. However, this alternative would not fully meet the proposed action's goal of creating new parkland along the waterfront.

F. WATERFRONT URBAN DESIGN ALTERNATIVE

This alternative was developed in response to comments from the Community Board 1 Rezoning Task Force during the public scoping process for the DEIS, suggesting possible variations on the urban design regulations proposed for waterfront blocks. This alternative is intended to assess whether an alternate set of waterfront urban design regulations would result in impacts substantially different from those of the proposed action and whether it would meet the purpose and need for the proposed action identified in Chapter 1, "Project Description."

This alternative is the same as the proposed action except for the following modifications to the proposed zoning text changes:

- The maximum height permitted for buildings on waterfront parcels where R8 districts are mapped would be 250 feet.
- Zoning text changes would allow additional flexibility for towers to be located further from the shoreline.

This alternative would be identical to the proposed action in terms of the number of projected development sites and the anticipated new additional development that would occur on those sites. Like the proposed action, this alternative would result in a net increment of 7,391 dwelling units and 253,698 sf of local commercial/retail uses on 76 projected development sites in Greenpoint-Williamsburg. This alternative would also have the same breakdown as the proposed action in terms of development on the waterfront versus the upland area.

Therefore, for those CEQR technical areas affected by density-related potential impacts (e.g, community facilities, open space, traffic, transit, etc.), the effects of the Waterfront Urban Design Alternative would be identical to those of the proposed action. Moreover, as the projected development sites for this alternative are the same as for the proposed action, site-specific potential impacts (e.g., hazardous materials, archaeology) would also be the same, as these relate to individual site conditions. However, the Waterfront Urban Design Alternative would have different effects on Urban Design and Visual Resources, and, to a lesser extent, shadows and neighborhood character, as discussed below.

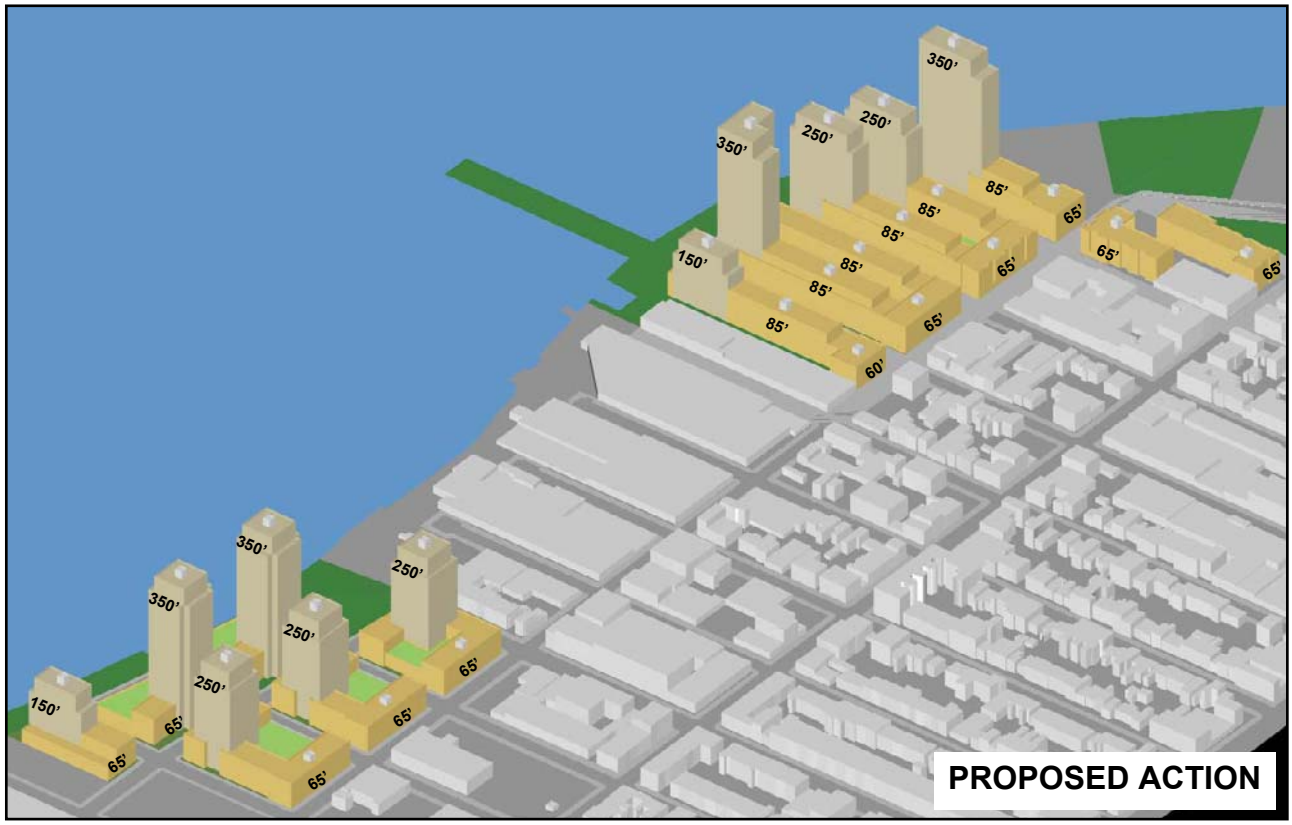
As described in Chapter 1, "Project Description," for the proposed action, buildings in R8 districts would be subject to a maximum base height of 70 feet, with a height of 85 feet permitted after a setback, and a maximum height of 250 feet subject to floor plate and setback regulations. For sites with multiple towers in R8 districts, up to half those towers could rise to a maximum height of 350 feet subject to floor plate and setback regulations.

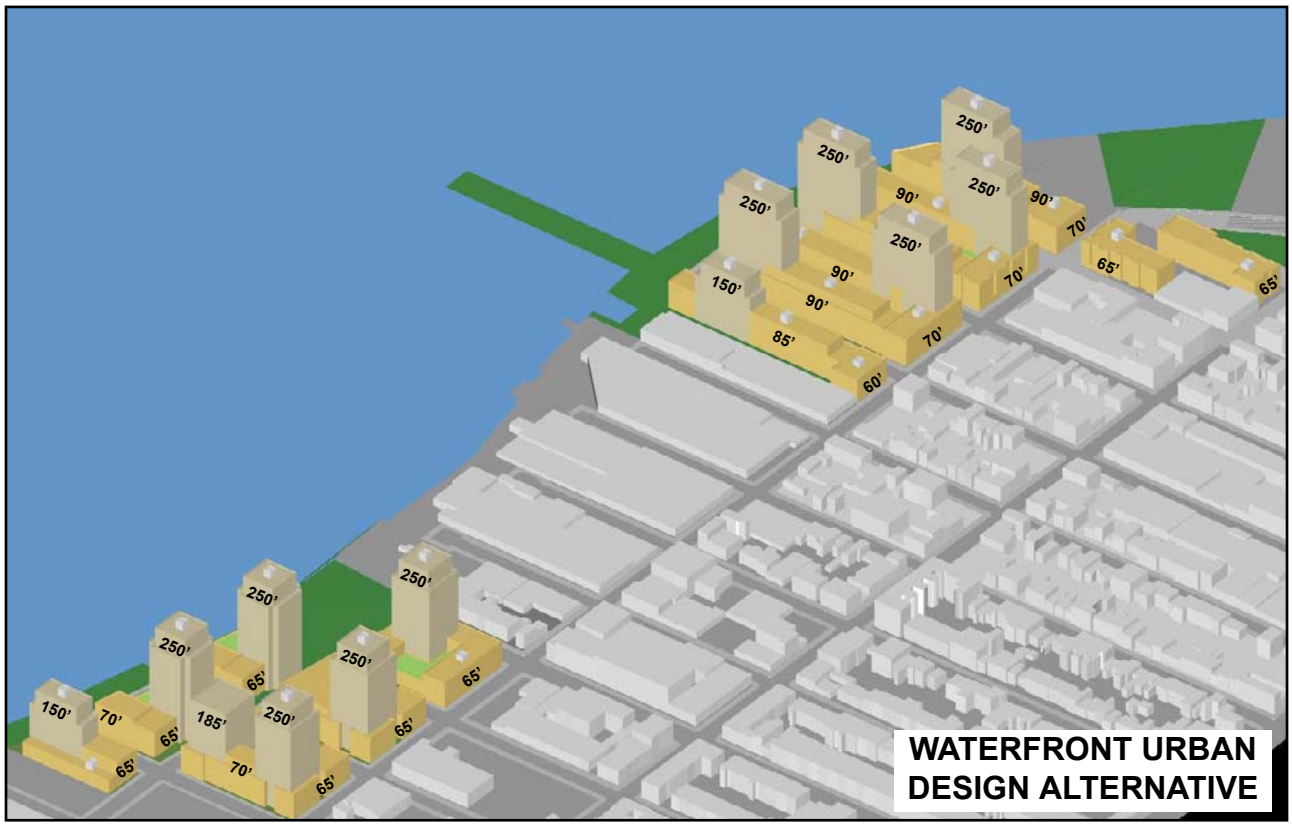
The Waterfront Urban Design Alternative would permit a maximum height of 250 feet for all towers in R8 districts. Although this would result in the tallest buildings on the waterfront being shorter than under the proposed action, as illustrated in Figure 23-5, it would result in a more uniform and monotonous skyline, which would lack the variety of building heights and the ensuing visual interest at the waterfront that would be expected to result form the proposed action. In addition, the reduction in the maximum permitted building heights on the waterfront would likely result in the development of additional towers to accommodate the permitted floor area on each projected development site on the waterfront. As illustrated in Figure 23-5, the increase in the number of towers along the waterfront under the Waterfront Urban Design Alternative would create a sense of greater bulk and building density than the proposed action.

The Waterfront Urban Design Alternative also includes zoning text changes which would allow additional flexibility for towers to be located further from the shoreline, and thus closer to the adjacent neighborhood. Whereas the proposed action would prohibit towers within 100 feet of the first upland street (e.g., Kent Avenue, West Street, Commercial Street), limiting buildings to 65 feet in height, this Alternative would allow taller building to be located along the first upland street (see Figure 23-5). As a result, the taller developments along the first upland street would not be in context with the upland area, and could create a visual barrier to the waterfront. Therefore, unlike the proposed action, this alternative would not ensure that buildings at the upland end of waterfront blocks meet the neighborhood at a characteristic scale.

In terms of shadows, this alternative would result in buildings that are either the same height as or shorter than buildings that would be developed with the proposed action, although the reconfigured building

Illustrative Bulk Diagrams for Waterfront Urban Design Alternative - Greenpoint

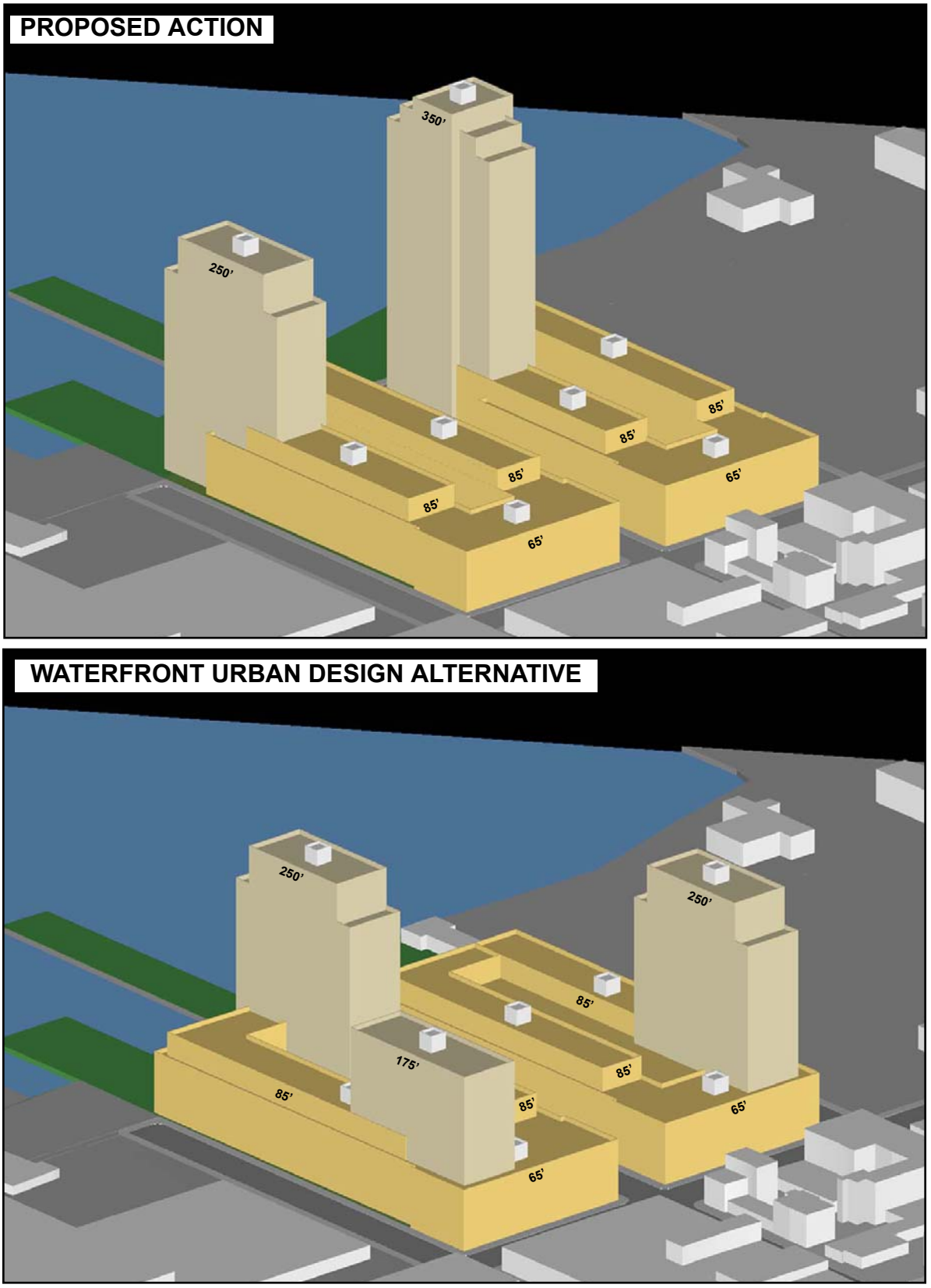




LEGEND:

- Building Base
- Building Tower
- Open Space
- Private Open Space

Illustrative Bulk Diagrams for Waterfront Urban Design Alternative - Williamsburg



envelopes and additional towers that would result under this alternative may result in slightly different shadows. Therefore, the shadows cast by developments under this Waterfront Urban Design Alternative would be the same as or shorter than those cast by buildings developed with the proposed action.

The Waterfront Urban Design Alternative would meet the objectives of the proposed action in facilitating opportunities for new residential development; and enhancing the public environment, ground-floor uses, and streetscapes to make the proposed action area a more appealing place to live, work, and visit.

G. AFFORDABLE HOUSING ZONING DISTRICT (AHZD) ALTERNATIVE

The AHZD alternative was suggested by the office of City Councilman David Yassky during the public scoping process for this DEIS. Under the AHZD Alternative, a mandatory affordable housing requirement would be applied in the rezoning area, including both waterfront and upland areas. This alternative is intended to assess whether these requirements would meet the purpose and need for the proposed action identified in Chapter 1, "Project Description."

Although the AHZD Alternative would not alter the proposed densities or heights for new development within the proposed action area, it would impose mandatory affordability requirements for new residential developments of 10 units or more.

Under the AHZD Alternative, all new developments of 10 units or more in R6 or higher-density residence districts where zoning changes increase permitted residential density would be required to include affordable units. Market-rate housing units could only receive a certificate of occupancy upon completion of the required affordable units. Developers would be permitted to utilize other sources of subsidy (e.g., HPD/HDC programs) in order to satisfy the requirement for affordable units. There would be no bonus or compensation for the requirement to provide affordable housing, and no option for a payment in lieu of provision of affordable units. Affordable units would be required to remain affordable in perpetuity, and compliance with affordability requirements would be overseen by a "monitoring and compliance agent" approved by HPD. Developments providing affordable units on site could satisfy the requirement by providing 20% of units affordable to households at or below 50% of Area Median Income (AMI), 30% of units affordable at 50% to 80% of AMI, 40% of units affordable at 80% to 100% of AMI, or 50% of units affordable at 100% to 120% of AMI. Developments could also satisfy the requirement by providing affordable units off site, with an additional 10% of the units affordable (e.g., 30% of units affordable at or below 50% of AMI).

The AHZD Alternative would require the same type of discretionary approvals and public actions as the proposed action.

Although the AHZD Alternative would result in redevelopment within the proposed action area, it would add substantial uncompensated costs, coupled with permanent affordability requirements, to developments. Some developments would be unable to combine the mandatory program with an available public subsidy. None would be able to access a permanent ongoing subsidy that would match the affordability obligation. Unlike the Revised AHBI Alternative, in which detailed analyses by HPD have resulted in a careful balancing of the financial incentives offered to developers with the public interest in promoting an economically integrated community, in the AHZD Alternative, the developer's obligation would be substantially greater while the available public subsidies would be no greater than under the

Revised AHBI Alternative. As a consequence, the effect of the AHZD Alternative on development would fall short of fulfilling the established goals and objectives of the proposed action.

Because the AHZD Alternative would not fully meet the purpose and need of the proposed action, it has not been carried forward for detailed analysis. While the proposed action is framed as a comprehensive effort to create new opportunities for housing, including affordable housing, to address the strong demand for housing in the area, the AHZD Alternative contemplates restrictions on housing development that would tend to decrease the amount of housing developed within the proposed action area, with adverse effects on both the proposed action area and the surrounding residential neighborhoods.

The overarching purpose of the proposed action is to create opportunities for new residential and commercial development and for the enhancement and upgrade of the waterfront area, addressing the strong demand for housing in the area. An assessment of the potential of the AHZD Alternative to fulfill the goals of the proposed action and to meet its purpose and need is provided in subsequent discussion.

As described under "Purpose and Need for Proposed Action" in Chapter 1, "Project Description," the central goals of the proposed action include creating opportunities for new housing development on underutilized and vacant land formerly used for manufacturing, where there is no longer a concentration of industrial activity and where strong demand for housing exists. They also include facilitating the redevelopment of the area's derelict East River waterfront, establishing a blueprint for a revitalized waterfront with a continuous public walkway and enlarged parks along approximately two miles of the East River.

The AHZD Alternative would impose an unprecedented mix of obligations on new housing development—combining high percentage requirements of affordable units, mandatory obligations to provide the units, permanent affordability for the required units, and broad application of the obligations to large, medium and small-sized developments. While developers would be authorized to utilize subsidies in order to satisfy these requirements, the availability of these subsidies is not assured. Further, there are no public programs available that provide permanent ongoing subsidies to affordable housing units. Therefore, development under the AHZD Alternative would be dependent on the willingness of private developers to accept the responsibility of constructing and maintaining the affordable units without compensation or programmatic assistance for the perpetual life of the obligation. A development would need to continue to generate sufficient returns to subsidize affordable units while earning a fair return on investment, in perpetuity and through varying market conditions. The end result of this alternative could therefore be to discourage investment in new housing in areas in which density has increased through rezoning, by creating significant economic risks for new housing development that would not exist in other areas. This discouragement of investment would be in opposition to the goals of the proposed action. In addition, in instances where developers do elect to build under these requirements, but do not properly take the financial risks into account, there would be a possibility that the City would have to step in at some future date to provide subsidies to maintain affordable units, diverting the City's finite affordable housing resources.

In addition, by requiring at least 20 to 60 percent of units to be affordable within new developments as small as 10 units, with no option for payment in lieu of constructing affordable units, the AHZD Alternative would impose significant administrative burdens on small developers, whose activity is key to the development of relatively small sites in Brooklyn.

A reduction of housing development on the waterfront would reduce the amount of open space provided under the Waterfront Access Plan, which would undermine the goal of replacing an underutilized, inaccessible waterfront with a vibrant neighborhood and public access to the water's edge.

H. REVISED AFFORDABLE HOUSING BONUS AND INCENTIVES (REVISED AHBI) ALTERNATIVE[2]

Following the issuance of the DEIS on October 4, 2004, the department of City Planning submitted a modified ULURP application (ULURP Nos. N050110(A)ZRK and C050111(A)ZMK) for the zoning map and text amendments for the proposed action. The modified application was prepared in response to comments received during the public review process, and is the basis of this alternative. The modified application incorporates an enriched Inclusionary Housing program developed by the Department of City Planning and Department of Housing Preservation and Development for Greenpoint-Williamsburg, together with some minor modifications to the zoning map. This program would combine a zoning bonus with existing financial programs to create an incentive for the development and preservation of affordable housing in conjunction with the Greenpoint-Williamsburg Rezoning. Detailed analyses by HPD indicate that this bonus would represent an effective incentive for developers to provide affordable housing. The Revised Affordable Housing Bonus and Incentives (Revised AHBI) Alternative evaluates the modified application and replaces the Affordable Housing Bonus and Incentives (AHBI) Alternative analyzed in the DEIS.

Inclusionary Housing Zoning Bonus

The Greenpoint-Williamsburg zoning text amendment application has been modified to incorporate the inclusionary housing proposal developed by the Department of City Planning and Department of Housing Preservation and Development. The modified zoning text amendments for this alternative are included as Appendix F to this FEIS (whereas the text amendments for the proposed action are in Appendix E).

The modified proposal significantly expands current inclusionary housing policy by permitting the use of city, state, and federal housing subsidy programs in conjunction with a zoning bonus to achieve a substantial number of affordable units in medium-density districts. On the waterfront, the modifications lower the base FAR available without the bonus to enhance the program's attractiveness. Also proposed for the first time is an inclusionary bonus program that would apply in medium density zones in the upland areas. The specifics of the inclusionary housing zoning bonus are provided below.

Throughout the Rezoning Area

In both the waterfront and upland areas, developments providing affordable housing would be eligible for a floor area bonus.

- City, state, and federal housing subsidy programs could be coupled with the zoning bonus.

[2] This alternative, which was developed in response to community comments received during the public review process, is new to the FEIS, and replaces the AHBI alternative analyzed in the DEIS.

- The affordable housing requirement of the inclusionary housing zoning bonus could be met through:
  - Development of new affordable units on-site,
  - Development of new affordable units off-site (within Community District 1), or
  - Preservation of existing units at affordable rents (units located within Community District 1).
- Affordable units would be managed by a nonprofit entity.
- Units used to earn the zoning bonus would remain affordable in perpetuity.

Waterfront

In the area governed by the Greenpoint-Williamsburg Waterfront Access Plan under this alternative, developments utilizing the Inclusionary Housing zoning bonus would be eligible for an increase in the maximum Floor Area Ratio (FAR) permitted:

- Sites zoned with a blend of R6 and R8 districts would be subject to a maximum FAR of 4.0 (reduced from 4.3 FAR in the proposed action) without the Inclusionary Housing bonus. With the bonus, these sites could achieve a maximum FAR of 4.7 (an 18 percent bonus).
- In order to achieve this, the modified text allows a bonus from the base FAR of 2.43 in R6 districts up to 2.75. In R8 districts, the modified text establishes a reduced base FAR of 5.5, which can be increased up to 6.5 with the bonus.
- Developments utilizing the Inclusionary Housing bonus would be eligible for an increase in the overall height limits in R8 districts, to 300 and 400 feet (including the 40-foot penthouse allowance). There would be no increase in the height limits for R6 districts.

In order to earn the Inclusionary Housing bonus, developments are required to provide affordable housing for low-, moderate-, or middle-income households. Several options allow developments to target different income levels:

- 15 percent of the floor area on the zoning lot must be affordable to households at or below 80 percent of Area Median Income (AMI); or
- 10 percent below 80 percent of AMI, *plus* 10 percent below 125 percent of AMI; or
- 10 percent below 80 percent of AMI, *plus* 15 percent below 175 percent of AMI.

On waterfront sites undergoing phased development, the modified text exempts a phase consisting entirely of affordable units from the waterfront public access requirements. The entire site would remain subject to all waterfront public access areas required under the Waterfront Access Plan.

Upland

In the upland portion of the Greenpoint-Williamsburg rezoning area under this alternative, contextual residential district designations (R6B, R6A, R7A) are proposed in order to ensure that new development is consistent with the existing scale of the neighborhood. The modified text would establish an Inclusionary Housing zoning bonus for upland developments, while maintaining the height limits in these upland areas. In the upland areas, the building heights would be the same as for the proposed action, with bonus floor area accommodated under the same height limits.

Quality Housing developments providing affordable housing would be eligible for a bonus of between 10 and 20 percent, depending on the zoning district. For each square foot of affordable housing provided, the development would be eligible for an additional two square feet of floor area, up to the maximum FAR in the following table:

District	Base FAR	Max. FAR (w/ bonus)
R6B	2.0	2.2
R6 (narrow street)	2.2	2.42
R6A, R6 (wide street)	3.0	3.6
R7A	4.0	4.6

Other Modifications to Proposed Zoning Text

The modified zoning text amendment application includes other modifications in response to comments received during the DEIS public review period. These items include:

Waterfront Bulk Regulations

- The height and setback rules for waterfront development have been modified to extend streetwall requirements to all streets, upland connections, and visual corridors (only applied to Commercial Street, West Street, and Kent Avenue in the proposed action). The minimum streetwall height has been reduced from 40 feet to 30 feet. In addition, for sites with more than 100 feet of street frontage in R6 districts, at least 20 percent of the streetwall would be limited to 55 feet or five stories. These changes respond to recommendations received from Community Board 1 to require variation in streetwall heights on waterfront blocks. (Sections 62-354(a) and (h), refer to Appendix F).
- Piers could be reconstructed in a different configuration from the existing pier, while still generating development rights, provided that the base of the pier remains at the same location. This would allow flexibility for the rebuilding of deteriorated piers, and would also make possible the rebuilding of piers in T-shaped or other configurations, as recommended by Community Board 1. (Section 62-31(b), refer to Appendix F).
- On waterfront sites, accessory parking would not be considered floor area if located below a height of 33 feet (increased from 23 feet). This modification has been made to ensure that required parking can be accommodated in conjunction with the requirement for parking structures to be "wrapped" with active use. The modified text also allows a portion of the space "wrapping" the parking structure to be used as mechanical space. (Sections 62-351 and 62-354(g), refer to Appendix F).
- For waterfront developments, the requirements for accessible landscaped space on top of parking structures have been modified to permit mechanical equipment to occupy a portion of required landscaped roofs and to allow a portion of the roof to be reserved for the use of adjacent tenants. (Section 62-354(f), refer to Appendix F).

Waterfront Access Plan

- The public access requirements on Parcel 14 of the Waterfront Access Plan have been reconfigured. An upland connection would extend from the intersection of Calyer and West Streets to a point at the southwest corner of the site, at the edge of the Bushwick Inlet. Supplemental access areas would be required at this point along the waterfront, extending to the north and the east. (Sections 62-831(e)(10) and 62-831(g), refer to Appendix F).
- Certain changes have been made pertaining to materials and design requirements for guardrails and benches (Sections 62-831(d)(1)(ii) and 62-831(d)(2), refer to Appendix E).

- The incentives permitting reduction of the total amount of supplemental access area required in exchange for specified amenities have been clarified. (Section 62-831(c), refer to Appendix F).

Modifications to Proposed Zoning Map

Three modifications have been made to the proposed zoning map under this alternative, as illustrated in Figure 23-6:

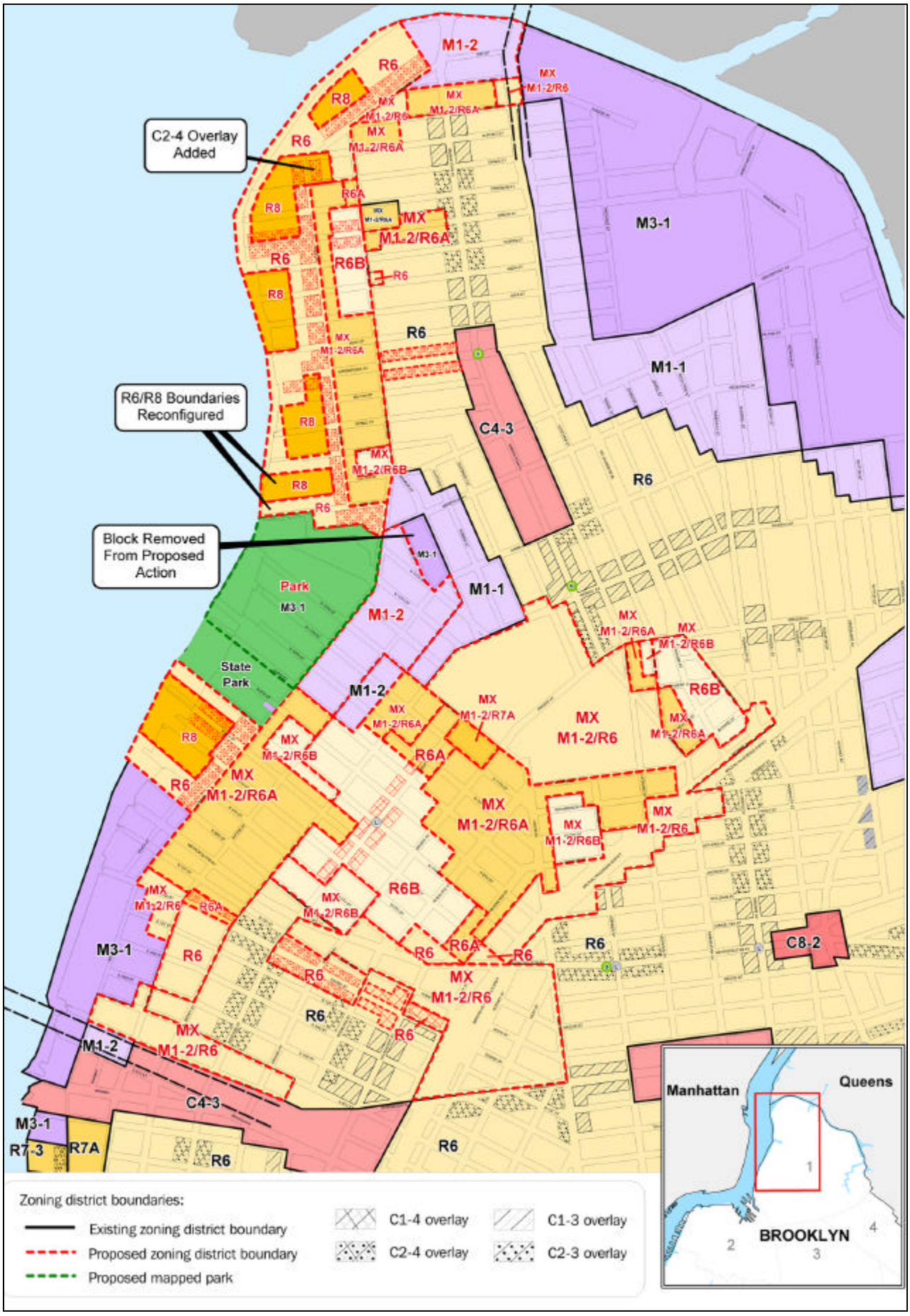
- The block bounded by Gem Street, Meserole Avenue, Banker Street, Wythe Avenue, and North 15th Street has been removed from the proposed zoning. This block has been removed in response to comments received from Acme Smoked Fish Co., to facilitate the expansion of this active business which employs 150 people.
- A C2-4 commercial overlay has been added along the east side of West Street between Dupont and Eagle Streets. This provides for continuity of retail opportunity along West Street, and also reflects in part a Community Board #1 comment recommending that commercial activity be permitted near parks and open space.
- The R6 and R8 district boundaries have been reconfigured in the waterfront area bounded by Oak Street, West Street, the Bushwick Inlet, and the East River. (See modifications to the Waterfront Access Plan, described above.) The reconfiguration of the district boundaries does not result in a change in the FAR generated by the site.

Development Scenario

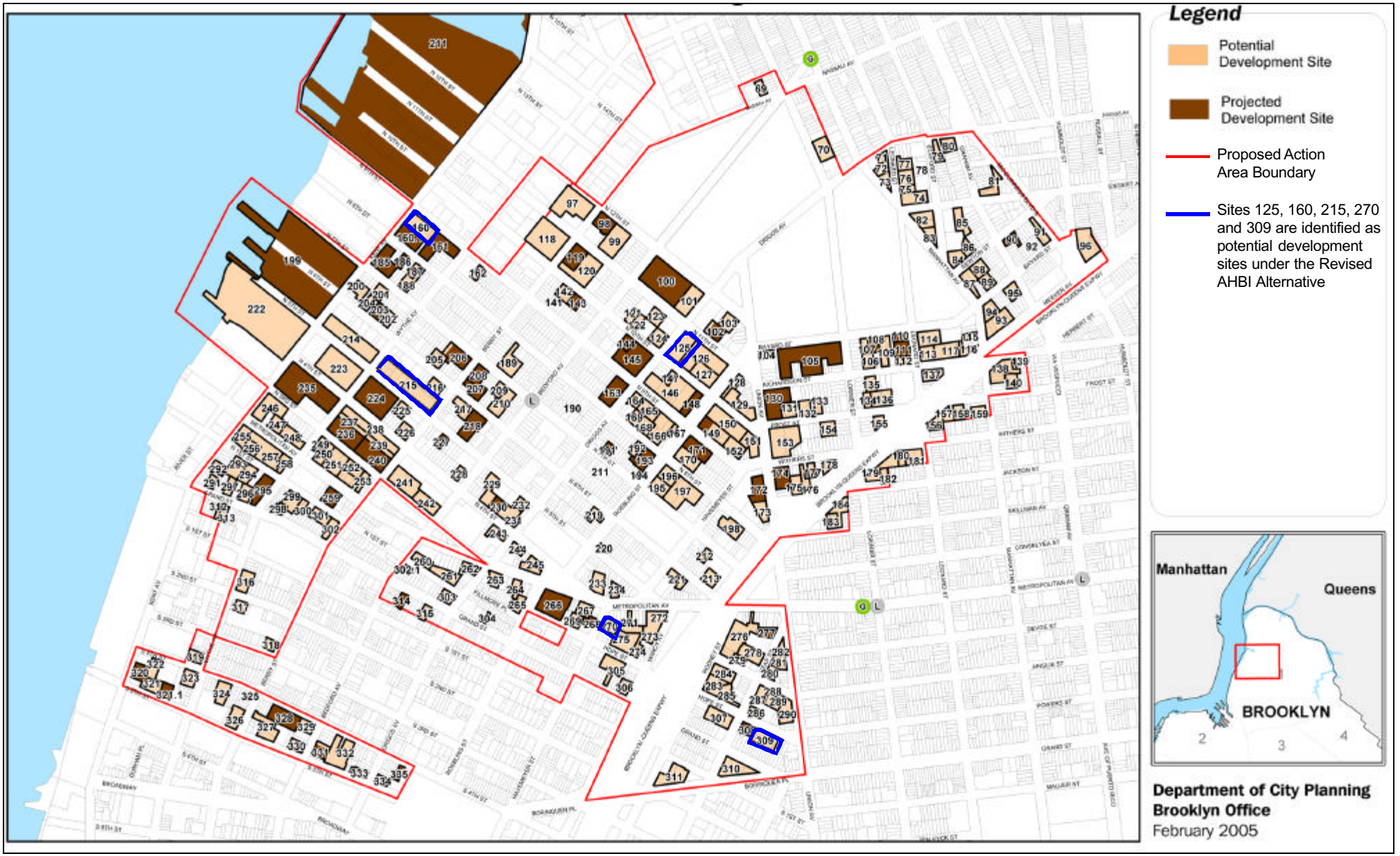
Due to the FAR bonus provided by the Inclusionary Housing program under this alternative, there would be an increase in the number of units on the three waterfront projected development sites and approximately 42 of the projected development sites in the upland. Because market demand in the upland areas is considered to be fixed, certain projected development sites in the upland area were changed to potential development sites to keep the total number of projected units in the upland consistent. As such, five upland sites in Williamsburg which were identified as projected development sites with the proposed action are identified as potential development sites under this alternative (Sites 125, 160, 215, 270, and 309), as illustrated in Figure 23-7. The projected and potential development sites in Greenpoint remain the same as with the proposed action. As such, this alternative identifies 71 projected development sites (compared to 76 with the proposed action) and 269 potential sites (compared to 264 with the proposed action). The two tables in Appendix G identify the uses and development density expected to occur for each projected and potential development site under this alternative. Table 23-4 below summarizes the overall development program for the 71 projected development sites identified under the Revised AHBI alternative for both Scenario A and Scenario B, and compares it to the RWCDS for the proposed action analyzed in this EIS.

As shown in Table 23-4, the development scenario for this alternative includes a total of 8,780 projected housing units in the proposed action area, which reflects maximum utilization of the inclusionary housing bonus mechanism on projected development sites, as well as approximately 347,160 sf of local retail (compared with 8,257 units and 337,160 sf of commercial/retail with the proposed action). Of the 8,780 total units projected under this alternative, 6,067 units would be located on the three projected waterfront sites, and 2,713 units are projected in the upland (same as for the proposed action, but on five fewer sites). Because a C2-4 commercial overlay would be added along the east side of West Street between Dupont and Eagle Streets (on projected development Site 3), this alternative would result in an additional 10,000

Revised Affordable Housing Bonus and Incentives Alternative - Zoning Map



Source: NYC Department of City Planning (February 2005)



Greenpoint-Williamsburg Rezoning EIS **Figure 23-7**

Projected and Potential Development Sites: Future With Revised Affordable Housing Bonus and Incentives Alternative - Williamsburg

sf of local retail compared to the proposed action, which would be located on projected development Site 3 on the waterfront.[3]

TABLE 23-4
Summary of RWCDS for Revised AHBI Alternative Compared to Proposed Project - Scenario A and Scenario B on Projected Development Sites (1)

USE	FUTURE NO-ACTION		FUTURE WITH-ACTION		NET INCREMENT	
	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative
SCENARIO A						
Residential (DUs)	866	866	8,257	8,780	7,391	7,914
Commercial (SF)	83,462	80,962	337,160	347,160	253,698	266,198
Mapped Park (acres - upland only)	N.A.	N.A.	27.8	27.8	27.8	27.8
Industrial/Manufacturing (SF)	1,294,281	1,220,871	158,012	158,012	-1,136,269	-1,062,859
Vehicle & Open Storage (SF)	642,686	627,938	0	0	-642,686	-627,938
Automotive (SF)	32,309	30,433	7,433	7,433	-24,876	-23,000
Vacant Buildings (SF)	619,913	619,913	62,008	62,008	-557,905	-557,905
Vacant Land (SF)	949,997	941,968	0	0	-949,997	-941,968
SCENARIO B						
Residential (DUs)	866	866	8,257	8,780	7,391	7,914
Commercial (SF)	83,462	80,962	337,160	347,160	253,698	266,198
Mapped Park (acres - upland only)	N.A.	N.A.	15.9	15.9	15.9	15.9
Industrial/Manufacturing (SF)	1,422,001	1,348,591	345,137	345,137	-1,076,864	-1,003,454
Vehicle & Open Storage (SF)	642,686	627,938	0	0	-642,686	-627,938
Automotive (SF)	32,309	30,433	7,433	7,433	-24,876	-23,000
Vacant Buildings (SF)	619,913	619,913	62,008	62,008	-557,905	-557,905
Vacant Land (SF)	949,997	941,968	394,233	394,233	-555,764	-547,735

(1) The RWCDS summary shown is cumulative for the 76 identified projected development sites for the proposed action and the 71 identified projected development sites for the Revised AHBI Alternative.

Approximately 1,398 of the 7,914 net increment in projected residential units would be affordable units, which would be available to low-income, moderate-income, and middle-income households. Low-income

[3] During the period in which the FEIS was being prepared for publication, information became available which indicates that three potential development sites in the RWCDS (Sites 3.1, 222, and 327) may be developed within the foreseeable future. In order to provide for a more conservative assessment, Appendix J therefore includes a technical memorandum which considers the environmental effects of the proposed action under a revised RWCDS which considers these sites as projected development sites for analysis purposes. FEIS chapters analyzing the Revised AHBI Alternative should be read in conjunction with this technical memorandum.

households are defined as earning 80% or less of Area Median Income (AMI), moderate-income households are defined as those earning 125% or less of AMI, and middle-income households are defined as those earning 175% or less of AMI[4]. Assuming maximum utilization of the inclusionary housing bonus mechanism on projected development sites, this alternative would generate an estimated 893 low-income units (708 units on the waterfront and 185 units in upland developments), 202 moderate-income units (on the waterfront) and 303 middle-income units (on the waterfront).

Using 2000 Census data for the proposed action area and an approximate ¼-mile radius around it, the average household size for low-income units is estimated at 2.91 persons per household, the average household size for moderate-income units is estimated at 2.57 persons per household, and the average household size for middle-income units is estimated at 2.56 persons per household. For unsubsidized units, an average of 2.27 persons per household is assumed (same rate utilized in estimating the population generated by the proposed action). Using the above rates, the 7,914 net new dwelling units resulting from the Revised AHBI alternative (1,398 affordable and 6,516 unsubsidized) are estimated to generate approximately 18,685 residents, compared to a net increment of 16,778 residents with the proposed action (an increase of approximately 11.4%).

As noted above, the development scenario for this alternative includes the construction of approximately 523 additional units and 10,000 sf of additional retail over that of the proposed action, on the assumption that the potential FAR bonus on each projected development site would be fully utilized. Such development would not result in construction of a greater number of buildings, but rather in larger buildings that would be more marketable. Therefore, as shown in Table 23-4 above, this alternative would result in a net increment of 7,914 units from No-Action conditions (compared to an increment of 7,391 units with the proposed action, an increase of 7.1%), of which approximately 1,398 units would be affordable (893 low-income, 202 moderate-income, and 303 middle-income) and the remaining 6,516 units would be unsubsidized (compared to 7,391 unsubsidized units and no affordable units with the proposed action).

The environmental effects of this alternative are evaluated below and compared with the proposed action. It should be noted that for CEQR technical areas affected by density-related potential impacts, the effects of the Revised AHBI Alternative have the potential to be greater in magnitude as it would result in more housing units and therefore more residents than the proposed action. The additional demand generated by residents would have a greater effect than the proposed action on such areas as community facilities, open space, and traffic and transit. However, as the total number of projected and potential development sites for the Revised AHBI Alternative are the same as for the proposed action, with five sites shifted from projected to potential designation, most of the site-specific potential impacts would be the same under both scenarios, as these relate to individual site conditions and are not dependent on the density of projected development. For example, the effects of the Revised AHBI Alternative on archaeological resources and hazardous materials conditions would be the same as the proposed action.

Land Use, Zoning, and Public Policy

The overall effect of this alternative on land use, zoning, and public policy would generally be comparable to that of the proposed action. This alternative would support the goals of the proposed action, by providing opportunities for new residential development in the area, while allowing the

[4] The HUD 2004 AMI for the New York City PMSA is $62,800.

continuation of industrial uses, together with the residential re-use of underutilized and vacant land. However, this alternative would provide a new mechanism for encouraging the development of low- to moderate- income as well as middle-income housing units, particularly on waterfront sites, which would not be available with the proposed action. As a result, unlike the proposed action, this alternative is anticipated to result in approximately 1,398 affordable units, most or all of which would not be created in the absence of the Revised AHBI Alternative. This alternative would therefore result in a population with a more varied mix of incomes. At the same time, this alternative is expected to result in higher density overall, compared to the proposed action, resulting in an approximately 9.4% increase in the number of units developed on the waterfront, and 7.1% more incremental dwelling units in the proposed action area as a whole. This increase in density would further expand the housing supply in the area, thereby supporting the City's public policy of increasing housing. Similar to the proposed action, the revised AHBI Alternative would have positive effects on land use, and would not result in significant adverse impacts to land use, zoning, or public policy.

Socioeconomic Conditions

By encouraging the development of affordable housing in the proposed action area, the Revised Affordable Housing Bonus and Incentives (Revised AHBI) Alternative would serve to reduce and partially mitigate potential significant indirect residential displacement impacts. Other socioeconomic effects would be similar to those anticipated under the proposed action, although the greater number of residential units would generate somewhat more new development with the accompanying additional employment and tax revenues during the construction and operation of new buildings. The additional housing units would provide additional supply to meet the increasing housing demands in New York City.

As explained above, the Revised AHBI Alternative would include zoning-based mechanisms which, in combination with programmatic affordable housing incentives, would facilitate the development of affordable housing within the proposed action area. As described in Chapter 3, "Socioeconomic Conditions," the proposed action could result in the indirect displacement of an estimated 2,510 low-income residents (830 households) living in units without rent control or rent regulation in the proposed action and primary study area. With the use of incentive packages, the Revised AHBI Alternative would provide approximately 1,398 affordable housing units. Of those, 893 units would be available to low-income residents, defined as families earning 80 percent or less of the New York PMSA Area Median Income (AMI), as determined by HUD. Residents considered to be low-income under the Revised AHBI Alternative would be families who earned roughly $50,250 or less in Federal Fiscal Year 2005. In addition, 202 housing units would be available to moderate-income residents, and 303 units would be available to middle-income residents. Table 23-5 shows family and household incomes for households that would be eligible for affordable housing under the Revised AHBI Alternative.

TABLE 23-5
Income Limits for Low, Moderate, and Middle Income Households under Revised AHBI Alternative

Household Income Classification	Income Limit (% of AMI for NYC PMSA)	Maximum Family Income (4 persons) FFY 2005
Low Income	80%	$50,250
Moderate Income	125%	$78,500
Middle Income	175%	$109,900

Source: U.S. Department of Housing and Urban Development, estimated 2004 Median Family Income, HPD

Although the Revised AHBI Alternative could, like the proposed action, result in the indirect displacement of approximately 830 households in the proposed action and primary study areas, the Revised AHBI Alternative would create an additional 1,398 affordable housing units. Under HPD's community preference policy, eligible residents of Brooklyn Community District 1 would receive preference for half of the affordable units in any given development, if built under city-sponsored programs and most of the displaced residents would likely qualify for the affordable units. However, the population of potentially displaced residents is expected to comprise only a portion of the households selected for the affordable units, and not all of the potentially displaced population are expected to be able to rent these units. Therefore significant adverse impacts resulting from indirect residential displacement are only partially mitigated under this alternative.

As described above, five of the sites considered projected development sites under the proposed action are not expected to be developed under the Revised AHBI Alternative. Three of these sites (125, 160, and 215) are currently occupied by businesses. Since those sites are not considered projected development sites under the Revised AHBI Alternative, those businesses would not be displaced. Overall, the Revised AHBI Alternative would result in the direct displacement of 531 jobs, compared to 580 under the proposed action. According to New York State Department of Labor data compiled by the New York City Department of City Planning, a majority of jobs that would be preserved on these three sites fall into the TCPU (Transportation, Communications, and Public Utilities) industry sector.

The Revised AHBI Alternative would increase the amount of retail introduced to the proposed action area by 10,000 square feet – from 337,160 under the proposed action to 347,160 under the Revised AHBI Alternative. This additional retail would be located at the waterfront on projected development Site 3, where 213 more housing units would be constructed under the Revised AHBI Alternative than under the proposed action. The 10,000 square feet of additional retail would primarily serve the added demand from this increased resident population, and the effects of the retail development under the Revised AHBI Alternative would be the same as those described for the proposed action.

The beneficial socioeconomic effects that an increased housing supply could produce would be augmented under the Revised AHBI Alternative compared to the proposed action. With more residential units, the market would be more likely to meet the long-term demand for new housing in the area, and with an affordable housing component, the Revised AHBI Alternative would allow the study area to retain a number of households that may otherwise be potentially indirectly displaced due to increases in rental rates, thereby reducing and partially mitigating the potential for an indirect residential displacement impact. The effects of the Revised AHBI Alternative on direct residential displacement, direct and indirect business displacement, and specific industries would be similar to those described for the proposed action (i.e., no significant adverse impacts), although the Revised AHBI Alternative would have the added benefit of directly displacing 49 fewer jobs than the proposed action. In sum, the Revised AHBI Alternative would result in no significant adverse impacts associated with direct residential displacement and direct and indirect business displacement, and would partially mitigate significant adverse socioeconomic impacts related to indirect residential displacement.

Community Facilities and Services

In projecting the population increase associated with the Revised AHBI Alternative, 2000 Census data for the proposed action area and an approximate ¼-mile radius around it were utilized to estimate household size for low-, moderate-, and middle-income units, as well as unsubsidized units. The average household size for low-income units is estimated at 2.91 persons per household, the average household

size for moderate-income units is estimated at 2.57 persons per household, and the average household size for middle-income units is estimated at 2.56 persons per household. For unsubsidized units, an average of 2.27 persons per household is assumed (same rate utilized in estimating the population generated by the proposed action). Based on these assumptions, the 7,914 net new dwelling units resulting from the Revised AHBI alternative (1,398 affordable and 6,516 unsubsidized) are estimated to generate approximately18,685 residents, compared to a net increment of 16,778 residents with the proposed action (an increase of approximately 1,907 residents).

Public Schools

As noted above, the Revised AHBI Alternative would generate an estimated 893 low-income units, 202 moderate-income units, 303 middle-income units, and 6,516 unsubsidized units. Low-, moderate-, and middle-income residential units have the potential to generate more public school students than higher income residential units, as shown in Table 3C-2 of the *CEQR Technical Manual.* In applying the generation rates shown in Table 3C-2 of the *CEQR Technical Manual*, the ratio for "Low-Mod" was applied to low-income and moderate-income units, the ratio for "Mod-High" was applied to middle-income units, and the ratio for "High" was applied to unsubsidized units. Accordingly, the Revised AHBI Alternative would generate a total of approximately 2,225 elementary school students and 833 intermediate school students, for a total of 3,058 primary school students by the year 2013 within the entire ½-mile study area (see Table 23-6). In addition, these residential developments would also generate approximately 513 high school students by 2013.

TABLE 23-6
Public School Students Generated by Revised AHBI Alternative*

	No. of Dwelling Units			P.S. Students			I.S. Students			High School Students		
	Low/Mod. Income	Middle Income	Unsub-sidized	Low/Mod. Income	Middle Income	Unsub-sidized	Low/Mod. Income	Middle Income	Unsub-sidized	Low/Mod. Income	Middle Income	Unsub-sidized
Greenpoint Sub-Area	748	238	4,218	254	74	1,139	97	31	422	67	19	253
Williamsburg Sub-Area	347	65	2,298	118	20	620	45	8	230	31	5	138
TOTAL	**1,095**	**303**	**6,516**	**372**	**94**	**1,759**	**142**	**39**	**652**	**98**	**24**	**391**

* *Student generation rates are based on the CEQR Technical Manual's Table 3C-2: "Projected Public School Pupil Ratios in New Housing Units of All Sizes" for high income households, low-to moderate-income HH, and moderate- to high-income HH.*
# of students: for high-income: 0.27/DU for elementary, 0.1/DU for intermediate, 0.06/DU for high; for mod-high income: 0.31/DU for elementary, 0.13/DU for intermediate, 0.08/DU for high; for low-mod income: 0.34/DU for elementary, 0.13/DU for intermediate, 0.09/DU for high

As shown in Table 23-7, under the Revised AHBI Alternative, the utilization of elementary schools within the Greenpoint sub-area would increase from 78 percent in the No-Action to 143 percent, a shortfall of 965 elementary school seats within the Greenpoint sub-area (compared to an increase to 135% and a deficiency of 778 seats with the proposed action). Given that there are not sufficient available seats for the additional elementary school students that would be introduced to the Greenpoint sub-area, the Revised AHBI Alternative, like the proposed action, could have a significant adverse impact on elementary schools in this sub-area.

The utilization rate for elementary schools in the Williamsburg sub-area would increase from 83 percent under No-Action conditions to 95 percent under the Revised AHBI Alternative, with 327 available seats

(see Table 23-7). The utilization rate for elementary schools within the ½-mile study area, which encompasses the Greenpoint and Williamsburg sub-areas, would increase from 81 percent to 107 percent, a shortfall of 638 elementary school seats within the study area (compared to an increase to 105% and a shortfall of 409 seats with the proposed action). As under the proposed action, although part of this shortfall could be accommodated in available intermediate school space, this would constitute a significant adverse impact on elementary schools within the study area as a whole.

Like the proposed action, this alternative is not anticipated to result in significant adverse impacts on public intermediate or high schools. Although the Revised AHBI Alternative could add 833 intermediate school students to the study area, intermediate schools within both the Greenpoint and Williamsburg sub-areas as well as the entire ½-mile study area and the CSD would operate at well below capacity, as shown in Table 23-7. The Revised AHBI Alternative could add 513 high school students to the study area by 2013, however, as with the proposed action, no significant adverse impacts to high schools would be expected in Brooklyn as a result of the Revised AHBI Alternative.

TABLE 23-7
Future with Revised AHBI Alternative: Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in 2013

ELEMENTARY SCHOOLS	No-Action Projected Enrollment in 2013	Students Generated by Revised AHBI Alternative	Total Projected Enrollment	Capacity	Seats Available	Percent Utilization
Total for Greenpoint Sub-Area	1,730	1,467	3,197	2,232	-965	143%
Total for Williamsburg Sub-Area	5,229	758	5,987	6,314	327	95%
Total for Study Area	6,959	2,225	9,184	8,546	-638	107%
Total for Elementary Schools in CSD14	**10,838**	**2,225**	**13,063**	**16,549**	**3,486**	**79%**
INTERMEDIATE SCHOOLS	**No-Action Projected Enrollment in 2013**	**Students Generated by Revised AHBI Alternative**	**Total Projected Enrollment**	**Capacity**	**Seats Available**	**Percent Utilization**
Total for Greenpoint Sub-Area	533	550	1,083	1,253	170	86%
Total for Williamsburg Sub-Area	2,112	283	2,395	3,706	1,311	65%
Total for Study Area	2,645	833	3,478	4,959	1,481	70%
Total for Intermediate Schools in CSD14	**3,784**	**833**	**4,617**	**7,543**	**2,926**	**61%**

DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2002-2003 and DCP, Enrollment Projections for 2003-2012*

Compared to the proposed action, the Revised AHBI alternative could result in a somewhat greater impact on elementary schools in the Greenpoint sub-area and the ½-mile study area as a whole, which would require more mitigation than under the proposed action. Whereas the proposed action would require mitigation for a shortfall of 778 elementary school seats within the Greenpoint sub-area and 409 elementary school seats within the ½-mile study area, the Revised AHBI Alternative would require mitigation for an anticipated shortfall of 965 elementary school seats within the Greenpoint sub-area and 638 elementary school seats within the ½-mile study area. As with the proposed action, if the Revised AHBI Alternative is approved, the City would construct or lease a new elementary or K-8 school in the project area as part of the Department of Education's Five Year Capital Plan, 2010-2014, as the

development associated with the proposed action proceeds. Planning for this mitigation would be provided for in the Department of Education's Five Year Capital Plan, 2005-2009, as amended in FY2005. This mitigation would be supplemented through administrative actions that the DOE would undertake to mitigate the shortfall in school seats, such as adjusting catchment areas and/or reorganizing grade levels within schools. DOE would continue to monitor trends in demand for school seats in the area. The DOE responses to identified demand could take place in stages and include administrative actions and/or enlargement of existing schools, followed by the later construction or lease of new school facilities at an appropriate time.

Libraries

As discussed in Chapter 4, "Community Facilities and Services," the study area is currently served by three BPL branch facilities, including the Greenpoint Branch, Leonard Branch, and Williamsburgh Branch (which re-opened in January 2005). In the future without the proposed action, the population is expected to increase in the proposed action area by approximately 7,514 residents due to new residential development projects, to an estimated 136,585 residents. However, with the re-opening of the Williamsburgh Branch, the volumes per resident ratio would increase from the existing 1.24 to 1 to approximately 2.02 to 1 in 2013.

By 2013, 18,685 net new residents would be added to the proposed action area as a result of the Revised AHBI Alternative, which would increase the study area population by approximately 13.7% over No-Action conditions to a total of 155,270 residents. As a result, the volumes to resident ratio would decrease somewhat from the future No-Action ratio of 2.02 to a ratio of 1.77 per resident with the Revised AHBI Alternative (compared to 1.79 with the proposed action). Although the Revised AHBI Alternative would result in a greater than 5 percent increase in population over No-Action conditions, it is anticipated that no significant adverse impacts on libraries within the study area would occur. As with the proposed action, the BPL would continue to evaluate its library utilization rates within the study area based on various factors, including population, circulation, program attendance, and computer usage, to determine if and when additional library services would be needed. In addition, based on BPL's plans to expand and strengthen its branch collections, and to replace or expand the Greenpoint Branch, it is expected that the three library branches would adequately serve the expanded population in the study area resulting from either the proposed action or the Revised AHBI Alternative.

Day Care

If an action would produce substantial numbers of subsidized, low-to moderate-income family housing units, it may generate a sufficient number of eligible children to affect the availability of slots at public day care centers. Whereas the new residential development generated by the proposed action is not anticipated to include low- to moderate-income dwelling units, and would not be expected to increase demand for publicly financed daycare facilities in the study area, the Revised AHBI Alternative, which would result in the introduction of 1,095 low- to moderate-income units (plus an additional 303 middle-income units), could result in an increase in demand on such facilities.

As discussed in Chapter 4, "Community Facilities and Services," there are currently approximately 25 publicly funded or partially publicly funded daycare facilities within an approximate one-mile radius of the proposed action area, which have a total capacity of approximately 2,911 slots, with a current enrollment of 2,886, and a waiting list of 1,334 children (or a net excess demand of 1,309 slots). In the future without the proposed action, new residential development projects within the study area are not anticipated to include low- to moderate- income units. As such, demand for publicly funded or partially

publicly funded daycare facilities in the study area is assumed to remain relatively stable by 2013 as a result of these new developments under No-Action conditions.

By 2013, as a result of the Revised AHBI Alternative, up to 1,095 low- to moderate-income housing units would be added to the study area, many of which would be eligible for subsidized day care. Using the rate for "Low-Mod" income units in Table 3C-4 of the *CEQR Technical Manual*, the 1,095 low- to moderate-income units would generate a maximum of approximately 372 children (ages 0-12) eligible for publicly financed child care. According to the *CEQR Technical Manual*, a significant adverse impact could result if a proposed action results in: 1) a demand for slots greater than remaining capacity of day care centers, and 2) that demand constitutes an increase of 5 percent or more of the collective capacity of the day care centers serving the proposed action area over the No-Action conditions. As the Revised AHBI Alternative would add approximately 372 children eligible for subsidized day care, that would increase demand by 12.8 percent over the capacity of 2,911 slots. As indicated above, the existing demand for publicly funded day care facilities exceeds the capacity and would therefore be expected to worsen in the future with the Revised AHBI Alternative. Because the Revised AHBI Alternative would result in an increase of more than five percent in a deficiency of day care slots over the No-Action condition, a significant adverse impact to publicly funded day care centers in the study area is expected to occur with the Revised AHBI Alternative.

Therefore, unlike the proposed action, the Revised AHBI Alternative would result in a significant adverse impact on publicly funded or partially publicly funded day care facilities in the study area, and would require mitigation measures for this impact which would not be required under the proposed action. Possible mitigation measures include adding capacity to existing facilities or providing a new daycare facility within or near the proposed action area. At this point however, it is not possible to know exactly which type of mitigation would be most appropriate and when, because the demand for publicly funded day care depends not only on the amount of residential development in the area, but the proportion of new residents who are children of low-income families. Therefore, as is standard practice, the Administration for Children's Services (ACS) is expected to monitor development of the proposed action area and respond to provide the capacity when needed. The mitigation required for the Revised AHBI Alternative is discussed in the "Mitigation" section below.

Health Care

Whereas the new residential development generated by the proposed action is not anticipated to include low- to moderate-income dwelling units, and would therefore not increase demand on local outpatient public health care facilities in the study area, the Revised AHBI Alternative, which would result in the introduction of 1,095 low- to moderate-income units, may result in increased demand on local public ambulatory health care facilities, as low-income populations are more likely to make more emergency room visits than higher-income populations.[5]

As discussed in Chapter 4, "Community Facilities and Services," there are three hospitals, including emergency rooms, within approximately a mile of the proposed action area, which are available to residents and workers in the study area. The hospital facilities serving the study area had approximately 479,790 outpatient ambulatory visits and approximately 252,642 emergency room visits in 2000. In the future without the proposed action, new residential development projects within the study area are not anticipated to include low- to-moderate income units. As such, demand on local public health care

[5] *National Healthcare Disparities Report*, www.qualitytools.ahrg.gov/qualityreport

facilities in the study area is not likely to increase by 2013 as a result of these new developments under No-Action conditions.

According to the *CEQR Technical Manual*, impacts are identified if the proposed action would result in an increase of 5 percent or more in the demand for emergency and outpatient ambulatory services over the No-Action conditions, or would result in a facility exceeding its capacity.

By 2013, as a result of the Revised AHBI Alternative, up to 1,095 low- to moderate-income housing units (with an estimated residential population of 3,118) could be added to the study area. Based on the national average for emergency room visits for Medicaid patients of 65.4 annual emergency room visits per 100 persons insured by Medicaid (low-income population), the addition of 3,118 low-to moderate-income residents could add an estimated 2,039 annual visits to study area emergency rooms. Therefore, this additional low-to moderate-income population would generate an increase in demand over the No-Action condition of approximately 0.8 percent in study area hospital emergency room visits and an increase of 0.4 percent in outpatient ambulatory visits. As this increase is well below the CEQR impact threshold, no significant adverse impacts on emergency and outpatient ambulatory services are expected as a result of the Revised AHBI Alternative.

Police and Fire Protection Services

Like the proposed action, the net new residential population (which would be approximately 1,907 residents more than that introduced by the proposed action) as well as the worker and visitor populations introduced by the Revised AHBI Alternative, could increase the demand for police and fire protection services. As with the proposed action, the NYPD would determine deployment of additional personnel after assessment of crime trends, population, and the amount of 911 calls that are received in an area. While the additional development that would occur as a result of either the proposed action or the Revised AHBI Alternative would require additional resources in the area from the NYPD, the NYPD would be able to allocate resources as necessary along with the pace of development.

Likewise, FDNY regularly conducts reviews of call volumes throughout the City, and the FDNY would continue to evaluate area operations over time, typically on a semi-annual or annual basis. As such, it is anticipated that additional fire and EMS units would be allocated as necessary to serve the new developments introduced by either the proposed action or the Revised AHBI Alternative.

Open Space

As shown in Table 23-8, under Scenario A in this alternative, all of the open space ratios would increase relative to No-Action conditions, except within the Greenpoint sub-area, where the total open space ratio would increase by 0.4%, the active open space ratio would decrease by 11.2%, and the passive open space ratio would increase by 13.9% (compared to an increase of 3.5% in the total ratio, a decrease of 8.4% in the active ratio, and an increase of 17.4% in the passive ratio with the proposed action). As with the proposed action, given the small increase in the total open space ratio, and the availability of other qualitative factors (provision of waterfront access for example) which would offset the decrease in the active open space ratio, no significant adverse impact is anticipated within Greenpoint under Scenario A under this alternative. It should be noted however that the Revised AHBI Alternative would result in a smaller increase in the total open space ratio in the Greenpoint sub-area than the proposed action, and a greater decline in the active open space ratio.

TABLE 23-8: Quantitative Analysis of Public Open Space Resources for Revised AHBI Alternative

				2013 WITH PROPOSED ACTION		2013 WITH REVISED AHBI ALTERNATIVE	
		EXISTING	NO-ACTION	*Scenario A*	*Scenario B*	*Scenario A*	*Scenario B*
Greenpoint Sub-area	**Population (persons)**						
	Residential	*39,481*	*39,817*	***50,574***	***50,574***	***52,124***	***52,124***
	Open Space Acreage (acres)						
	Active	17.08	17.08	19.86	17.08	19.86	17.08
	Passive	12.83	14.63	21.81	19.03	21.81	19.03
	Total	29.91	31.71	**41.67**	**36.11**	**41.67**	**36.11**
	Open Space Ratio						
	Active	0.433	*0.429*	*0.393*	*0.338*	*0.381*	*0.329*
	Passive	0.325	*0.367*	*0.431*	*0.376*	*0.418*	*0.365*
	Total	0.758	*0.796*	***0.824***	***0.714***	***0.799***	***0.693***
	% Change in Open Space						
			From Existing to No-Action	*From No-Action to With-Action*		*From No-Action to Revised AHBI Alternative*	
	Active	-	*-0.9%*	*-8.4%*	*-21.2%*	*-11.2%*	*-23.3%*
	Passive	-	*12.9%*	*17.4%*	*2.5%*	*13.9%*	*-0.5%*
	Total	-	***5.0%***	***3.5%***	***-10.3%***	***0.4%***	***-12.9%***
Williamsburg Sub-area	**Population (persons)**						
	Residential	*89,590*	*96,768*	***102,788***	***102,788***	***103,146***	***103,146***
	Open Space Acreage (acres)						
	Active	31.11	35.11	46.23	43.06	46.23	43.06
	Passive	11.54	14.59	26.90	23.73	26.9	23.73
	Total	42.65	49.70	**73.13**	**66.79**	**73.13**	**66.79**
	Open Space Ratio						
	Active	0.347	*0.363*	*0.450*	*0.419*	*0.448*	*0.417*
	Passive	0.129	*0.151*	*0.262*	*0.231*	*0.261*	*0.230*
	Total	0.476	*0.514*	***0.712***	***0.650***	***0.709***	***0.648***
	% Change in Open Space						
			From Existing to No-Action	*From No-Action to With-Action*		*From No-Action to Revised AHBI Alternative*	
	Active	-	*4.6%*	*24.0%*	*15.4%*	*23.4%*	*14.9%*
	Passive	-	*17.1%*	*73.5%*	*53.0%*	*72.8%*	*52.3%*
	Total	-	*8.0%*	***38.5%***	***26.5%***	***37.9%***	***26.0%***
1/2-Mile Study Area	**Population (persons)**						
	Residential	*129,071*	*136,585*	***153,362***	***153,362***	***155,270***	***155,270***
	Open Space Acreage (acres)						
	Active	48.19	52.19	66.09	60.14	66.09	60.14
	Passive	24.37	29.22	48.71	42.76	48.71	42.76
	Total	72.56	**81.41**	**114.80**	**102.90**	**114.8**	**102.9**
	Open Space Ratio (acres per						
	Active	0.373	*0.382*	*0.431*	*0.392*	*0.426*	*0.387*
	Passive	0.189	*0.214*	*0.318*	*0.279*	*0.314*	*0.275*
	Total	0.562	***0.596***	***0.749***	***0.671***	***0.739***	***0.663***
	% Change in Open Space						
			From Existing to No-Action	From No-Action to With-Action		*From No-Action to Revised AHBI Alternative*	
	Active	-	*2.4%*	*12.8%*	*2.6%*	*11.4%*	*1.4%*
	Passive	-	*13.2%*	*48.6%*	*30.4%*	*46.6%*	*28.5%*
	Total	-	***6.0%***	***25.7%***	***12.6%***	***24.0%***	***11.2%***

Under Scenario B, the Greenpoint sub-area would undergo a decrease in its total open space ratio by 12.9%, a decrease in the active open space ratio by 23.3%, while the passive open space ratio would decrease by 0.5% (compared to a decrease of 10.3% in the total ratio, a decrease of 21.2% in the active ratio, and an increase of 2.5% in the passive ratio with the proposed action). Therefore, as with the proposed action, the Revised AHBI Alternative would result in a significant open space impact in the Greenpoint sub-area under Scenario B, and would require a slightly greater degree of mitigation than the proposed action. The additional mitigation required for the Revised AHBI Alternative is discussed in the "Mitigation" section below.

Shadows

Under the Revised AHBI Alternative, in order to accommodate the bonus floor area, zoning text amendments would establish a height limit of 300 feet in R8 districts (compared to 250 feet with the proposed action) for developments utilizing the Inclusionary Housing bonus; and on parcels containing multiple towers in R8 districts, up to half of those towers could rise to 400 feet (compared to 350 feet with the proposed action). In addition, the minimum streetwall height would be reduced from 40 feet to 30 feet for waterfront developments, and, for sites with more than 100 feet of street frontage in R6 districts, at least 20 percent of the streetwall would be limited to 55 feet or five stories. In the upland areas, the building heights would be the same as for the proposed action, with bonus floor area accommodated under the same height limits, and as such the effects of the Revised AHBI Alternative would be the same as the proposed action.

On the waterfront, the taller buildings allowed by the Revised AHBI Alternative would result in longer shadows than with the proposed action. According to the *CEQR Technical Manual*, the longest shadow a structure would cast, except for periods close to dawn or dusk, is 4.3 times its height. Therefore, the longest shadow that could be cast from a 400-foot tall building is 1,720 feet, as compared to 1,505 feet for a 350-foot tall building.

The screening analysis for the proposed action found that there are seven open space resources and one historic resource within a 1,505-foot radius of the waterfront projected development sites which contain sunlight sensitive features. Other historic or open space resources within that radius were determined to lack sunlight sensitive features. The shadow analysis presented in Chapter 6, "Shadows," indicated that the proposed action would result in incremental new shadows on those sunlight-sensitive resources, and the incremental shadows would not result in significant adverse impacts on the stained glass windows in the Russian Orthodox Cathedral, or any of the identified open space resources in the study area. If the radius is extended further out to a 1,720-foot radius from waterfront developments, there would be no additional sunlight-sensitive sources affected.

The shadows cast by the taller buildings under this alternative would be slightly longer than those cast by the proposed action. However, as shown in Table 23-9 below, given the modified bulk under this alternative, shadows from the Revised AHBI Alternative would not be noticeably different from those cast by the proposed action. Although some projected or potential development sites would cast additional or new shadows on some of the identified resources, with a few exceptions, they would be cast during times when those resources would already be affected by shadows from other sites. As shown in Table 23-9, the shadows cast on most of the resources would be identical in duration to those cast by the proposed action, and for those resources where the durations differ (Newtown Barge Park and East River Sate Park) the increase would be minimal.

TABLE 23-9: Shadow Analysis for Revised AHBI Alternative

Resource	12/21 Shadow Increment		3/21 Shadow Increment		5/6 Shadow Increment		6/21 Shadow Increment	
	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative
Greenpoint Sub-Area								
Greenpoint Park (a.k.a. Right Triangle Park)	Enter: 8:51am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 4:29 pm Duration: 8h53m **Total for Analysis Day: 8h53m**	**No Change**	Enter: 6:27 am Exit: 6:30 am Duration: 3m Enter: 11:00 am Exit: 3:08 pm Duration 4h8m **Total for Analysis Day: 4h11m**	**No Change**	Enter: 5:57 am Exit: 6:29 am Enter: 11:40 am Exit: 1:50 pm Enter: 4:30 pm Exit: 6:01 pm **Total for Analysis Day: 4h13m**	**No Change**
Newtown Barge Park	Enter: 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 3:50 pm **Total for Analysis Day: 8h14m**	**Enter: 7:36 am Exit: 4:10 pm Total for Analysis Day: 8h34m**	Enter: 6:27 am Exit: 12:32 pm Enter: 12:43 pm Exit: 2:19 pm **Total for Analysis Day: 7h41m**	**Enter: 6:27 am Exit: 12:15 pm Enter: 12:31 pm Exit: 2:45 pm Total for Analysis Day: 8h2m**	Enter: 5:57 am Exit: 11:58 am **Total for Analysis Day: 6h1m**	**No Change**
American Playground	Enter: 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 11:47 am Enter: 12:10 pm Exit: 4:29 pm **Total for Analysis Day: 8h30m**	**No Change**	Enter: 11:55 am Exit: 5:18 pm **Total for Analysis Day: 5h23m**	**No Change**	Enter: 12:10 pm Exit: 6:01 pm **Total for Analysis Day: 5h51m**	**No Change**
Greenpoint Historic District	Enter: 2:33 pm Exit: 2:53 pm **Total for Analysis Day: 20m**	**No Change**	Enter: 3:37 pm Exit: 4:29 pm **Total for Analysis Day: 52m**	**No Change**	Enter: 4:23 pm Exit: 5:18 pm **Total for Analysis Day: 55m**	**No Change**	Enter: 4:55 pm Exit: 6:01 pm **Total for Analysis Day: 1h6m**	**No Change**
WNYC Transmitter Site	Enter: 8:51 am Exit: 2:18 pm **Total for Analysis Day: 5h27m**	**No Change**	Enter: 7:36 am Exit 12:43 pm **Total for Analysis Day: 5h7m**	**No Change**	Enter: 6:27 am Exit: 12:38 pm **Total for Analysis Day: 6h11m**	**No Change**	Enter: 5:57 am Exit: 12:47 pm **Total for Analysis Day: 6h50m**	**No Change**
McCarren Park	Enter: 8:51 am Exit: 10:10 am **Total for Analysis Day: 1h19m**	**No Change**	Enter: 7:36 am Exit: 9:15 am **Total for Analysis Day: 1h39m**	**No Change**	Enter: 6:27 am Exit: 8:20 am **Total for Analysis Day: 1h53m**	**No Change**	Enter: 5:57 am Exit: 8:32 am **Total for Analysis Day: 2h35m**	**No Change**
Williamsburg Sub-Area								
Proposed Inlet Park	Enter 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 9:28 am Exit: 10:30 am **Total for Analysis Day: 1h2m**	**No Change**	None	**No Change**	None	**No Change**
Grand Ferry Park	None	**No Change**	None	**No Change**	None	**No Change**	None	**No Change**

TABLE 23-9 (cont'd): Shadow Analysis for Revised AHBI Alternative

Resource	12/21 Shadow Increment		3/21 Shadow Increment		5/6 Shadow Increment		6/21 Shadow Increment	
	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative
P.S. 84 William Sheridan Playground	Enter: 12:49 pm Exit: 2:53 pm **Total for Analysis Day: 2h4m**	**No Change**	Enter: 4:08 pm Exit: 4:29 pm **Total for Analysis Day: 21m**	**No Change**	None	**No Change**	Enter: 5:50 pm Exit: 6:01 pm **Total for Analysis Day: 11m**	**No Change**
Transfiguration Church	Enter: 12:01 pm Exit: 1:48 pm Enter: 2:43 pm Exit: 2:53 pm **Total for Analysis Day: 1h57m**	**No Change**	None	**No Change**	None	**No Change**	Enter: 5:51 pm Exit: 6:01 pm **Total for Analysis Day: 10m**	**No Change**
McCarren Park (1)	Enter: 9:05 am Exit 2:53 pm **Total for Analysis Day: 5h48m**	**No Change**	Enter: 12:06 pm Exit: 4:29 pm **Total for Analysis Day: 4h23m**	**No Change**	Enter: 1:27 pm Exit: 5:18 pm **Total for Analysis Day: 3h51m**	**No Change**	Enter: 2:20 pm Exit: 6:01 pm **Total for Analysis Day: 3h41m**	**No Change**
McCarren Park (2)	Enter: 10:10 am Exit 2:53 pm **Total for Analysis Day: 4h43m**	**No Change**	Enter: 12:55 pm Exit: 4:29 pm **Total for Analysis Day: 3h34m**	**No Change**	Enter: 2:23 pm Exit: 5:18 pm **Total for Analysis Day: 2h55m**	**No Change**	Enter: 3:30 pm Exit: 6:01 pm **Total for Analysis Day: 2h31m**	**No Change**
McCarren Park (3)	Enter: 8:51 am Exit: 9:02 am **Total for Analysis Day: 11m**	**No Change**	None	**No Change**	None	**No Change**	None	**No Change**
McCarren Park (4)	Enter: 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 3:55 pm **Total for Analysis Day: 8h19m**	**No Change**	None	**No Change**	None	**No Change**
McCarren Park (5)	Enter: 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 2:50 pm **Total for Analysis Day: 7h14m**	**No Change**	None	**No Change**	None	**No Change**
Proposed East River State Park	Enter: 8:51 am Exit: 2:53 pm **Total for Analysis Day: 6h2m**	**No Change**	Enter: 7:36 am Exit: 10:30 am Enter: 11:26 am Exit: 4:29 pm **Total for Analysis Day: 7h57m**	**Enter: 7:36 am Exit: 10:30 am Enter: 11:18 am Exit: 4:29 pm Total for Analysis Day: 8h5m**	Enter: 6:27 am Exit: 8:53 am Enter: 12:47 pm Exit: 5:18 pm **Total for Analysis Day: 6h57m**	**Enter: 6:27 am Exit: 8:53 am Enter: 12:40 pm Exit: 5:18 pm Total for Analysis Day: 7h5m**	Enter: 5:57 am Exit: 8:10 am Enter: 1:43 pm Exit: 6:01 pm **Total for Analysis Day: 6h31m**	**Enter: 5:57 am Exit: 8:10 am Enter: 1:35 pm Exit: 6:01 pm Total for Analysis Day: 6h39m**
Macri Square	Enter: 10:15 am Exit: 2:53 pm **Total for Analysis Day: 4h38m**	**No Change**	None	**No Change**	None	**No Change**	None	**No Change**

Shadows cast by the Revised AHBI Alternative on Newtown Barge Park would be 20 minutes longer on March 21, and 21 minutes longer on May 6, compared to shadows cast by the proposed action. As with the proposed action, shadows cast on March 21 fall outside of the growing period between April and October, and utilization of open space resources are generally low during these periods. Therefore, new incremental shadows cast would not create significant adverse impacts on the park during these months. On May 6, as for the proposed action, incremental shadows would cover the majority of the park only in the very early morning, and would affect a small area of the southwest portion of the park until the shadows exit the park at 2:45 PM. As such, the incremental shadows cast by the projected/potential development on this day would not result in a significant loss of sunlight on the park. Therefore, as with the proposed action, no significant adverse shadow impacts on Newtown Barge Park are anticipated as a result of the Revised AHBI Alternative.

As shown in Table 23-9, compared to shadows cast by the proposed action, shadows cast by the Revised AHBI Alternative on the planned East River State Park would be 8 minutes longer on March 21, May 6, and June 21. Although the specific program for this park is not known at this time, it is unlikely that the projected/potential development would have significant impact on the proposed parks under either the proposed action or the Revised AHBI Alternative. As with the proposed action, the shadow analysis performed could be utilized in the planning and development phase of the planned park to develop a layout where features requiring sunlight would be located in areas of the park where shadows are not cast or cast for a short duration. As such, it is unlikely that the projected/potential development under the Revised AHBI Alternative would have significant adverse impacts on the planned East River State Park.

As with the proposed action, no new incremental shadows from the projected/potential development would extend into the Bushwick Inlet or the portion of the proposed Inlet Park located north of the inlet under the Revised AHBI Alternative.

Historic Resources

The effects of the Revised AHBI Alternative on historic resources would generally be the same as with the proposed action. Under the Revised AHBI Alternative, development could potentially occur on the same 340 projected and potential development sites identified for the proposed action, although five of the projected development sites identified for the proposed action are considered potential development sites with the Revised AHBI Alternative. Therefore, site-specific potential impacts, which relate to individual in-ground site conditions and are not dependent on the density of projected development, would be similar under this alternative as with the proposed action. It should be noted, however, that Sites 270 and 309, which have been identified as sensitive for archaeological resources, have been changed to potential sites under this alternative. As potential sites are considered less likely to be developed over the 10-year analysis period, the likelihood for archaeology impacts is reduced. Overall, the effects of the Revised AHBI Alternative on architectural and archaeological resources would be the same as the proposed action.

With this alternative, there is the same potential for disturbance of archaeological resources on those 14 projected development sites and 50 potential development sites identified in the archaeological assessment for the proposed action, and the same significant adverse impacts could occur. As with the proposed action, these are considered to be unavoidable adverse impacts as no mitigation measures are feasible because the area to be rezoned is privately-owned. Private ownership of the land would prevent the City from conducting or requiring an archaeological testing program to test for potential

archaeological remains, or from mandating the preservation or documentation of such remains, should they exist.

As with the proposed action, the buildings comprising the Greenpoint Terminal Market site, which may be eligible for S/NR listing, would likely be demolished in part or entirely to facilitate residential and local commercial development under the Revised AHBI Alternative. The redevelopment of the Greenpoint Terminal Market site would constitute a significant adverse impact. No mitigation measures are feasible, however, because the site is privately-owned and the structures are not designated as landmarks, which prevents the City from mandating possible mitigation measures. Consequently, the impact would remain unmitigated with either the proposed action or the Revised AHBI Alternative.

This alternative, like the proposed action, would also result in the conversion of one designated resource and several potentially eligible historic resources, which would not result in significant adverse impacts. However, the Revised AHBI Alternative, like the proposed action, could result in significant direct or indirect construction-related impacts to architectural resources. Like the proposed action, two development sites (Sites 222 and 291) would entail new construction under the Revised AHBI Alternative and are adjacent to an eligible resource (the former Northside Savings Bank and 184 Kent Avenue, respectively). If the eligible structures are not designated, they would not be subject to the city's standard construction protection procedures, and may therefore be adversely impacted by adjacent development resulting from this alternative. This would constitute a significant adverse impact. However, as with the proposed action, no mitigation measures are feasible, because the site is privately-owned and the structures are not designated as landmarks, which prevents the City from mandating or enforcing construction protection measures. Consequently, the impact would remain unmitigated with either the proposed action or the Revised AHBI Alternative.

As discussed above, developments on the waterfront could be taller under the Revised AHBI Alternative (if they utilize the Inclusionary Housing bonus). However, as none of the waterfront development sites are located in close proximity to identified architectural resources, no impacts would be expected due to the increased heights under this alternative.

Urban Design and Visual Resources

Under the Revised AHBI Alternative, zoning text amendments would establish a height limit of 300 feet in R8 districts (compared to 250 feet with the proposed action) for developments utilizing the Inclusionary Housing bonus; and on parcels containing multiple towers in R8 districts, up to half of those towers could rise to 400 feet (compared to 350 feet with the proposed action.

In the upland areas, the building heights would remain the same as under the proposed action, with bonus floor area accommodated under the same height limits, and as such the effects of the Revised AHBI Alternative would be the same as the proposed action in the upland areas. In addition, as discussed above, the height and setback rules for waterfront development under the Revised AHBI Alternative are modified to extend streetwall requirements to all streets, upland connections, and visual corridors (only applied to Commercial Street, West Street, and Kent Avenue in the original application). The minimum streetwall height has been reduced from 40 feet to 30 feet. In addition, for sites with more than 100 feet of street frontage in R6 districts, at least 20 percent of the streetwall would be limited to 55 feet or five stories.

The modification of height and setback rules for waterfront development is intended to maintain the diverse streetwall that is characteristic of the Greenpoint and Williamsburg neighborhoods as well as to

address the urban design recommendations received from Community Board 1 to require variation in streetwall heights on waterfront blocks. As is the case with the proposed action, new buildings developed under the Revised AHBI Alternative would, in many cases, replace existing vacant lots and underutilized or vacant buildings with new higher-density residential development.

However, the heights of the tallest buildings on the waterfront projected sites and most waterfront potential development sites would be approximately 14% to 20% taller than the tallest buildings on the waterfront with the proposed action. The maximum height of low-rise buildings on waterfront projected and potential sites would be no different than with the proposed action, though streetwall heights would vary. This would create a somewhat higher density and higher-rise character in the waterfront area than would occur with the proposed action, as illustrated in Figure 23-8.

Neighborhood Character

Effects on neighborhood character would be similar under this alternative to those of the proposed action. The increase in activity that would be introduced to the area (mostly associated with additional residents), and the changes in socioeconomic conditions under this alternative would be expected to further enhance the beneficial effects on neighborhood character that would be expected under the proposed action. As with the proposed action, the area would become a more vibrant mixed-use community with a larger residential and neighborhood retail presence leading to increased pedestrian traffic and street activity under the Revised AHBI Alternative. Although the increase in building heights on waterfront development sites would change the urban design character under the Revised AHBI Alternative, as discussed in the Urban Design section above, this would not have adverse impacts. Overall, neither this alternative nor the proposed action would result in significant adverse impacts on neighborhood character.

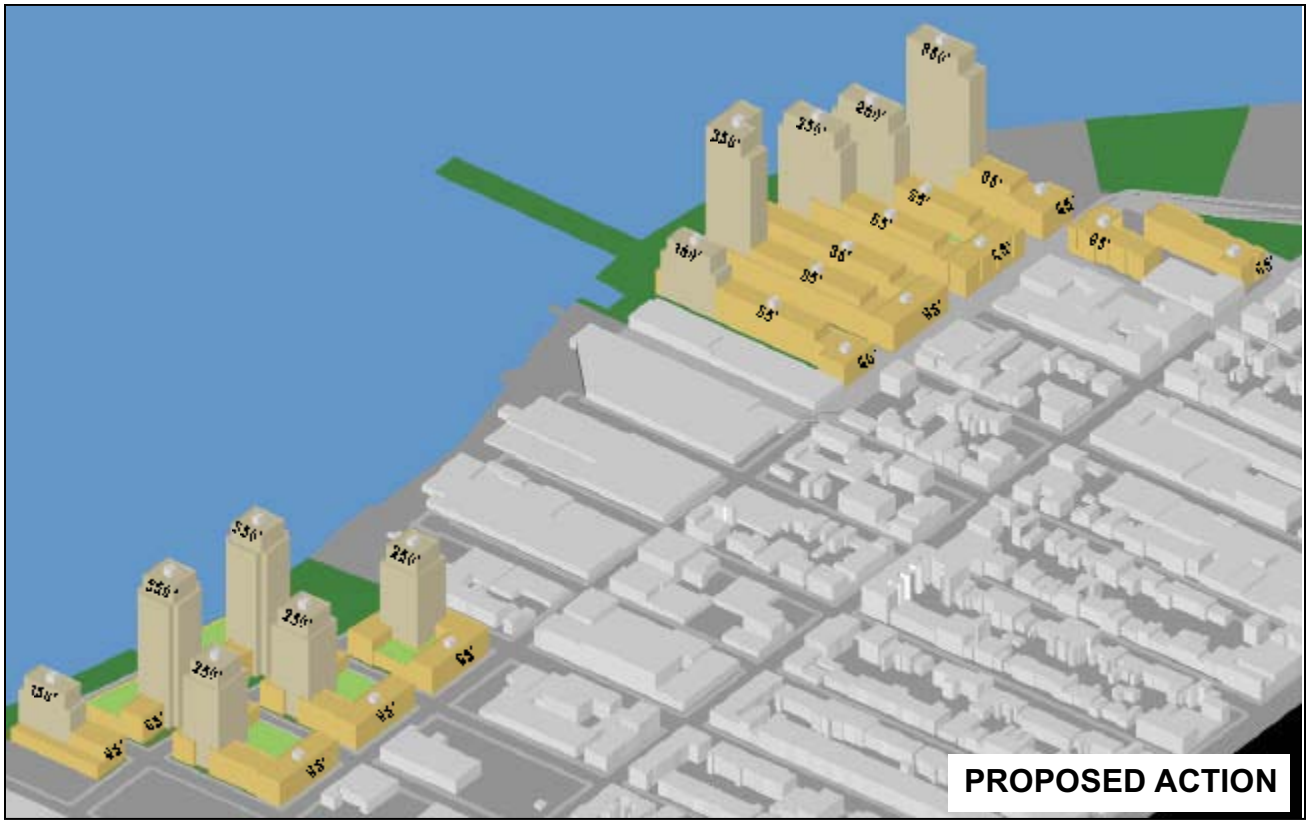
Hazardous Materials

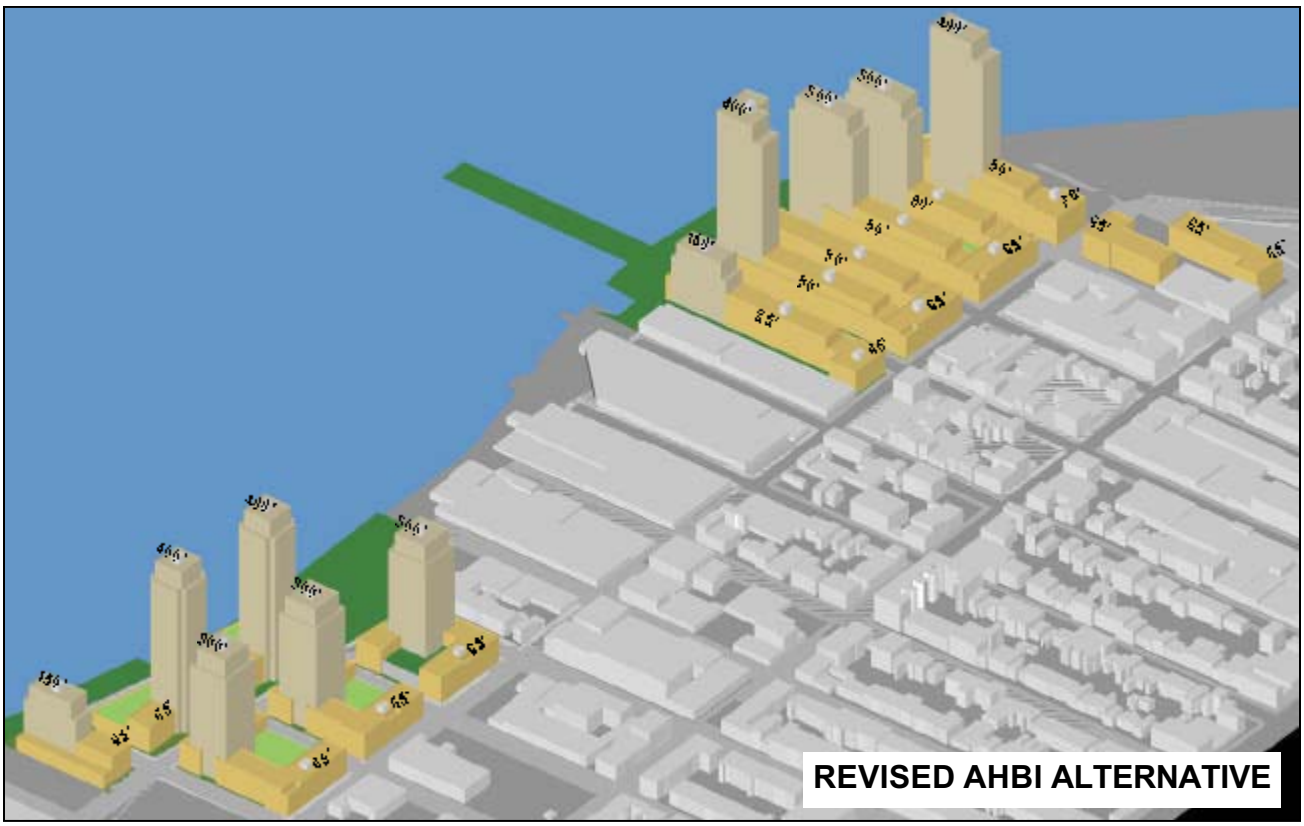
The effects of the Revised AHBI Alternative with respect to hazardous materials issues is expected to be identical to those of the proposed action. As noted above, development under this alternative could potentially occur on the same 340 projected and potential development sites identified for the proposed action, although five of the projected development sites identified for the proposed action would be considered potential development sites with the Revised AHBI Alternative. The potential for site-specific hazardous materials impacts remains the same as under the proposed action. As with the proposed action, all of the projected and potential development sites would receive an (E) designation under the Revised AHBI Alternative, with the exception of the site of the proposed park, which would undergo all required testing and necessary remediation measures following acquisition and prior to construction. As such, all of the projected and potential development sites listed in Table S-3 of the Executive Summary would be mapped with an (E) designation under either the proposed action or the Revised AHBI Alternative.

Natural Resources

As discussed in Chapter 10, "Natural resources," direct impacts on natural resources can include construction of new structures, landscaping, and removal of vegetation. As with the proposed action, these impacts are not considered significant for the Revised AHBI Alternative at the upland sites due to the minimal natural vegetative coverage and low habitat value. Moreover, like the proposed action, the

Illustrative Bulk Diagrams for Revised AHBI Alternative - Greenpoint

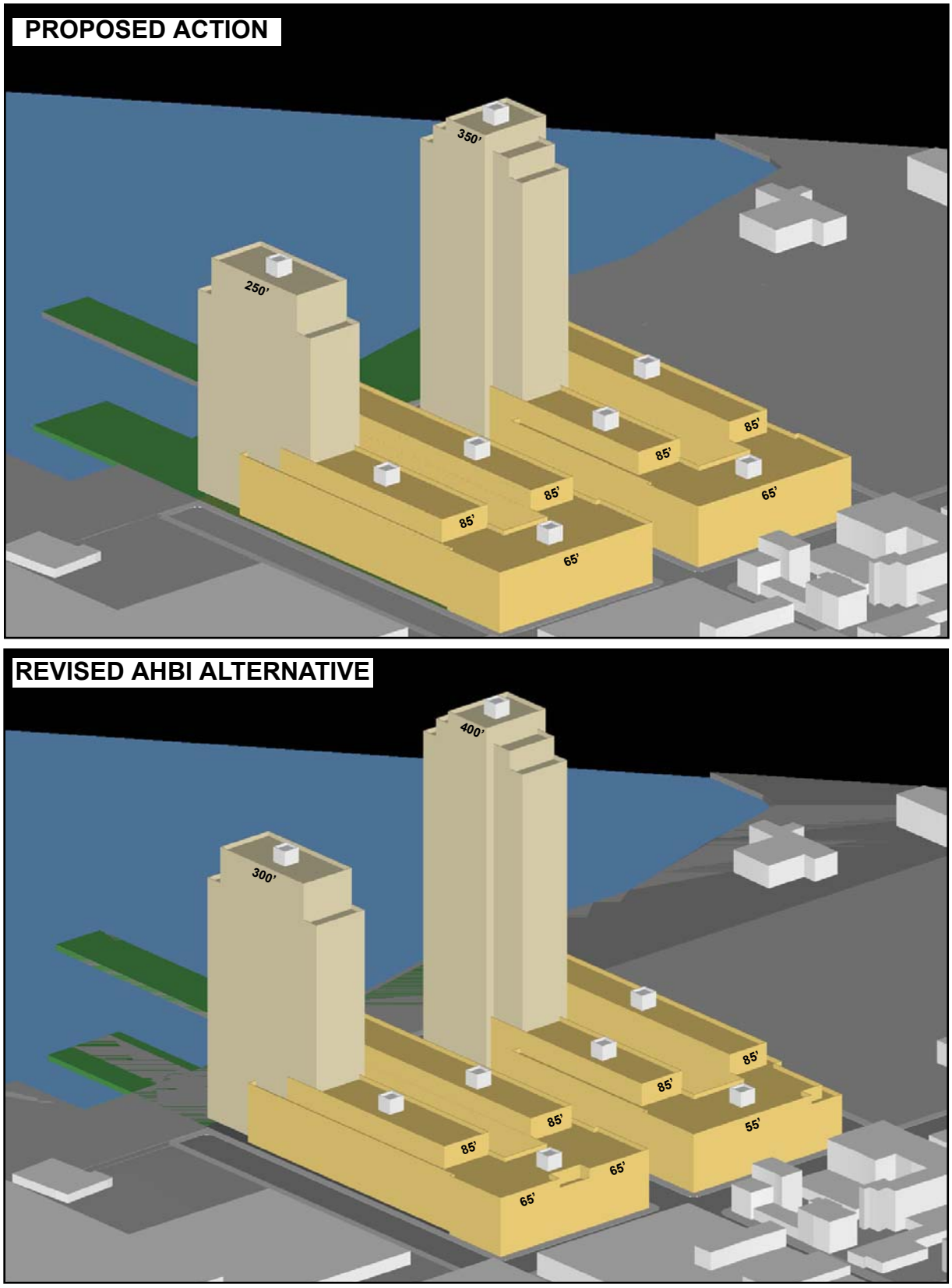




LEGEND:

- Building Base
- Building Tower
- Open Space
- Private Open Space

Illustrative Bulk Diagrams for Revised AHBI Alternative - Williamsburg



Revised AHBI Alternative includes the creation of a 27.8-acre park south of Bushwick Inlet, which would provide the potential for an expanded open space/ecological resource along the waterfront, and opportunity for expanding habitat diversity for wildlife, particularly birds.

As with the proposed action, waterfront development under the Revised AHBI Alternative would affect approximately 3,410 linear feet of shoreline that is presently bulkhead/riprap at the projected development sites. In addition, there are another 3,230 linear feet of shoreline that could potentially be developed. As with the proposed action, it would not be expected that this development would result in significant natural resource impacts under the Revised AHBI Alternative. Neither the proposed action nor the Revised AHBI Alternative would result in significant adverse impacts on water quality or aquatic resources.

Therefore, the Revised AHBI Alternative would result in similar effects on natural resources compared to the proposed action. Any limited additional shadows that may fall on the East River under this alternative would not be expected to have any impacts on the aquatic resources or habitats of the river. As with the proposed action, new incremental shadows cast by the Revised AHBI Alternative would not be long enough to reach Bushwick Inlet. Neither the proposed action nor the Revised AHBI Alternative would result in significant adverse impacts to natural resources.

Waterfront Revitalization Program

Under this alternative, although development would occur at higher density than with the action-induced development, it would result in similar uses to those projected for the proposed action, and could potentially occur on the same 340 projected and potential development sites identified for the proposed action. As such, like the proposed action, the Revised AHBI Alternative is anticipated to be consistent with the applicable policies of the City's Waterfront Revitalization Program.

Infrastructure

Under this alternative, development would occur at higher density than with the action-induced development. The demand on the City's water and sewer infrastructure would therefore be somewhat greater than that of the action-induced development.

Water Supply

Under the Revised AHBI Alternative, for Scenario A, total water usage on the 71 projected development sites would be approximately 4,047,997 gpd (4.05 mgd), resulting in a net increase of approximately 2.51 mgd over the No-Action Scenario A levels. This compares to a total water usage of 3.76 mgd and a net increase of 2.16 mgd for the proposed action (it should be noted that the usage estimates and increment calculations for the proposed action are based on 76 projected development sites, whereas the estimates and increment calculations for the Revised AHBI Alternative are based on 71 projected development sites). This represents an increase of 0.20% from the City's current water demand of 1.2 billion gallons daily for the Revised AHBI Alternative (compared to an increase of 0.18% with the proposed action).

Under the Revised AHBI Alternative, for Scenario B, total water usage on the 71 projected development sites would be approximately 4,165,724 gpd (4.17 mgd), resulting in a net increase of approximately 2.55 mgd over the No-Action Scenario A levels. This compares to a total water usage of 3.9 mgd and a net

increase of 2.22 mgd for the proposed action's 76 projected development sites. This represents an increase of 0.21% from the City's current daily water demand for the Revised AHBI Alternative (compared to an increase of 0.19% with the proposed action).

As with the proposed action, this small incremental demand resulting from the Revised AHBI Alternative would not be large enough to significantly impact the ability of the City's water system to deliver water. Moreover, as noted in Chapter 13, "Infrastructure," in conjunction with the reconstruction of Kent Avenue/Franklin Street, which would be completed in the future without the proposed action, water infrastructure improvements would occur along Kent Avenue, which would enhance the system's ability to handle additional demand. As such, the Revised AHBI Alternative, like the proposed action, would not create significant adverse impacts upon the City's water supply or local water pressure.

Sanitary Sewage and Wastewater Management

Under the Revised AHBI Alternative, sanitary sewage flows for Scenario A would be approximately 2.42 mgd (compared to 2.21 for the proposed action), an increase of approximately 1.39 mgd from flows projected for the No-Action (compared to 1.14 for the proposed action). Under Scenario B, sewage flows generated by the Revised AHBI Alternative are estimated at 2.51 mgd, an increase of 1.42 mgd from flows projected for the No-Action. The increments for both Scenario A and Scenario B under the Revised AHBI Alternative represent about 0.6% of the average wastewater flows at the Newtown Creek WPCP and 0.5% of its SPDES permitted flows (compared to 0.5% and 0.4%, respectively, for the proposed action).

As discussed in Appendix K, an assessment of water quality impacts from increased Newtown Creek WPCP effluent was made. That assessment assumed a 2.42 MGD increase in dry weather flow, and showed that any water quality impacts resulting from a 2.42 MGD increase would be insignificant and would likely not be detectable. Because the 2.42 MGD increase that was analyzed is greater than the actual increase from the No Action under any development scenario, the impacts to water quality resulting from any of the alternative development scenarios, including the action as proposed, would be even lower than the insignificant levels shown. Therefore, like the proposed action, the increase in sanitary sewage resulting from the Revised AHBI Alternative is not anticipated to adversely impact the Newtown Creek WPCP nor cause it to exceed its design capacity or SPDES permit flow limit. As such, the Revised AHBI Alternative, like the proposed action, would not create significant adverse impacts upon the City's sanitary sewage and wastewater management system.

Stormwater Management

As discussed in Appendix K, an assessment of increased pollutant loadings from CSOs as a result of the project was made. That assessment also assumed a 2.42 MGD increase in dry weather flow, and demonstrated that the resulting pollutant loadings would be insignificant. Because the 2.42 MGD increase that formed the basis of this analysis is greater than the actual increase from the No-Action under any development scenario, the impacts from increased CSOs under any of the alternative development scenarios, including the action as proposed, would be even lower than the insignificant levels shown.

As with the proposed action, the creation of new open space under the Revised AHBI Alternative (including the 27.8-acre park and waterfront public access areas) has the potential to reduce storm water runoff during periods when CSOs typically occur. No impact to either sanitary or stormwater conditions are expected due to either the Revised AHBI Alternative or the proposed action.

Solid Waste and Sanitation Services

Under this alternative, development would occur at higher density than with the action-induced development. The demand on the City's solid waste and sanitation services would therefore be somewhat greater than that of the action-induced development.

Under the Revised AHBI Alternative, it is estimated that the 71 projected development sites would generate approximately 471,182 pounds of solid waste per week (236 tons), resulting in a net increase of approximately 4.94 tons per week over the No-Action Scenario A levels. This compares to solid waste generation of 218 tons and an increment of -33.6 tons for the proposed action. For Scenario B, the Revised AHBI Alternative would generate approximately 513,987 pounds of solid waste per week (257 tons), resulting in a net increase of approximately 11.7 tons per week over No-Action Scenario B levels. This compares to solid waste generation of 240 tons and an increment of -26.9 tons for the proposed action. (It should be noted that the generation estimates and increment calculations for the proposed action are based on 76 projected development sites, whereas the estimates and increment calculations for the Revised AHBI Alternative are based on 71 projected development sites.)

As with the proposed action, whereas most of the existing and no-action solid waste generated on the projected development sites would be associated with non-residential uses, and hence picked-up by private carting companies, approximately 351,060 pounds per week of the total solid waste generated by the projected development sites under the Revised AHBI Alternative would be associated with residential uses (compared to 318,638 pounds for the proposed action). Solid waste generated by new residential development is expected to be picked up by DOS collection trucks. The solid waste generated by residential uses would be equivalent to approximately 25.1 tons per day for a net increase of 22.7 tons per day compared to No-Action conditions (compared to 22.8 tons per day and a net increase of 20.4 tons per day for the proposed action). Therefore, like the proposed action, the new residential uses induced by the Revised AHBI Alternative on the projected development sites would be expected to generate solid waste equivalent to approximately 2 truck loads per day (assuming a seven-day week).

Therefore, like the proposed action, no significant adverse solid waste impacts are expected for the Revised AHBI Alternative. Development pursuant to the proposed action would occur in an area which is currently served by DOS residential trash and recycling pick-ups. Neither the proposed action nor the Revised AHBI Alternative would affect the delivery of these services, or place a significant burden on the City's solid waste management system. The resulting net increase in solid waste to be picked up by DOS under the Revised AHBI Alternative is relatively small (about 22.7 tons per day) when compared to the estimated 12,000 tons of residential and institutional refuse and recyclables collected by DOS per day. In addition, due to the proposed action, non-residential waste serviced by private carters would decrease in the area and so would not overburden the private system.

Energy

Under this alternative, development would occur at higher density than with the action-induced development. The demand on the City's energy services would therefore be somewhat greater than that of the action-induced development.

It is estimated that the 71 projected development sites would use approximately 1.34 trillion BTUs of energy annually in the future with the Revised AHBI Alternative under Scenario A, and approximately 1.35 trillion BTUs annually under Scenario B, compared with 1.28 trillion and 1.29 trillion BTUs,

respectively, with the proposed action. Therefore, the Revised AHBI Alternative would result in an incremental increase of approximately 1.1 trillion BTUs in annual energy use compared to No-Action conditions, under both scenarios, compared to 1.04 trillion BTUS for the proposed action. (It should be noted that the generation estimates and increment calculations for the proposed action are based on 76 projected development sites, whereas the estimates and increment calculations for the Revised AHBI Alternative are based on 71 projected development sites.)

This annual demand would represent approximately 0.30% of the City's forecasted peak summer load of 12,396 MW in 2013, compared to 0.28% for the proposed action. The incremental annual demand under either the Revised AHBI Alternative or the proposed action would represent a very small amount of the City's forecasted annual energy requirements for 2013, and is therefore not expected to be a significant additional load. As such, the operational energy from either the proposed action or the Revised AHBI Alternative would not have significant adverse impacts.

Although under Scenario B, the TransGas power plant would increase the energy supply in the City, the available energy supply is anticipated to be sufficient to accommodate the additional demand generated by either the proposed action or the Revised AHBI Alternative with or without the TransGas power plant.

Traffic and Parking

Traffic

The increase in the net number of dwelling units by 7.1% overall would also increase transportation demand in the area by a similar amount compared to the proposed action. Table 23-10 below shows the net person trips and vehicle trips generated by the Revised AHBI Alternative, compared to trips generated by the proposed action. As shown in the table, the Revised AHBI Alternative is estimated to generate a net of 861 vehicle trips in the AM peak period, 451 vehicle trips in the midday, and 1,089 vehicle trips in the PM peak hour.

TABLE 23-10
Net Trips Generated by Revised AHBI Alternative, Compared to the Proposed Action

	AM		MD		PM	
	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative	Proposed Action	Revised AHBI Alternative
Person Trips						
Auto	934	1,080	506	604	1,232	1,402
Taxi	13	15	18	22	33	37
Subway	2,999	3,242	1,584	1,720	3,603	3,890
Bus	325	354	282	304	510	548
Walk/Other	1,555	1,648	2,706	2,818	3,603	3,785
TOTAL	**5,826**	**6,339**	**5,096**	**5,468**	**8,981**	**9,662**
Vehicle Trips						
Total Auto + Taxi	734	861	362	451	953	1,089

Based on an assessment of this increase in demand, it is expected that future With-Action conditions would marginally worsen with the Revised AHBI Alternative, and all 13 traffic impact locations would remain for this alternative, with impacts at some locations slightly exacerbated (see Table 23-11). There would not be any newly impacted locations under the Revised AHBI Alternative.

The same mitigation measures identified in Table 22-1 of Chapter 22, "Mitigation," for the proposed action would also be required to mitigate the impacts associated with the Revised AHBI Alternative, with some minor adjustments, as shown in Table 23-12. Minor adjustments to the mitigation measures for the revised AHBI Alternative include the transfer of one additional second of green time at 4 intersections, and implementation of no standing regulations at one additional intersection. As with the proposed action, one unmitigable impact would remain on the eastbound Greenpoint Avenue approach to McGuinness Boulevard in the AM peak hour under the Revised AHBI Alternative.

Parking

Off-Street Parking

As the Revised AHBI Alternative would include approximately 1,398 affordable housing units, the projected auto ownership rate for new households would be slightly lower under this alternative, at an estimated 0.76 vehicles per unit (compared to 0.77 fo the proposed action). However, with the increased number of net new residential units that would be developed under this alternative (7,914 units), the Revised AHBI Alternative would introduce approximately 6,015 vehicles to the study area (compared to 5,691 vehicles for the proposed action).

Based on an average requirement of 0.43 spaces per dwelling unit for the projected development under this alternative (according to the proposed zoning requirements for accessory parking), the estimated number of accessory parking spaces that would be provided for the approximately 7,914 dwelling units developed under the Revised AHBI Alternative would total 3,432. A further 266 accessory spaces would be required under zoning for the approximately 266,198 sf of retail/commercial space generated by the Revised AHBI Alternative. As retail/commercial parking demand typically peaks in the midday with little overnight demand, it is anticipated that these 266 spaces would be available to accommodate overnight residential demand. Therefore, of the approximately 6,015 vehicles associated with new residential development, upwards of 3,698 would be accommodated in new accessory parking that would be required under the Revised AHBI Alternative. The remaining residential demand – upwards of 2,317 vehicles during the peak overnight period – would utilize on-street curbside spaces along the local street system. The potential effect of this increase in overnight on-street parking demand is evaluated below in the discussion of on-street parking conditions.

As with the proposed action, it is expected that the accessory off-street parking capacity provided under the Revised AHBI Alternative would be sufficient to accommodate peak retail/commercial demand.

On-Street Parking

As discussed above, it is anticipated that the Revised AHBI Alternative, like the proposed action, would introduce sufficient accessory parking capacity to accommodate peak retail/commercial demand in the weekday midday. All of the projected commercial developments would also incorporate sufficient off-street loading facilities to accommodate delivery and service vehicles. In addition, the Revised AHBI Alternative would introduce sufficient new accessory parking to accommodate approximately 61 percent of the peak overnight demand generated by projected residential development (3,698 vehicles). The remaining 39 percent of overnight residential parking demand (upwards of 2,317 vehicles) would therefore need to be accommodated on-street throughout the study area.

TABLE 23-11
2013 Traffic Conditions with Revised AHBI Alternative
Signalized Intersections

		AM Peak Hour									MD Peak Hour									PM Peak Hour								
		2013 No-Action			2013 With Action			Alternative Revised A.H.B.I			2013 No-Action			2013 With Action			Alternative Revised A.H.B.I			2013 No-Action			2013 With Action			Alternative Revised A.H.B.I		
Intersection	Lane Group	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS
Franklin Street (N-S) @	NB-LTR	0.61	19.7	B	0.91	31.9	C	0.92	33.6	C	0.84	26.9	C	1.00	54.7	D *	1.02	61.2	E *	0.36	7.0	A	0.52	8.7	A	0.55	9.0	A
Calyer Street (E-W)	SB-LTR	0.61	6.3	A	0.37	6.5	A	0.37	6.6	A	0.90	37.0	D	0.94	43.6	D	0.95	44.9	D	0.88	27.1	C	0.95	38.3	D	0.96	40.5	D
Franklin Street (N-S) @	NB-T	0.74	18.4	B	0.76	19.3	B	0.77	19.7	B	0.77	20.5	C	0.84	25.3	C	0.85	26.7	C	0.78	20.9	C	1.04	61.7	E *	1.07	72.0	E *
Quay Street (EB)	SB-T	0.43	10.8	B	0.50	11.8	B	0.50	11.9	B	0.54	13.2	B	0.57	13.9	B	0.58	14.1	B	0.62	14.1	B	0.64	14.6	B	0.64	14.7	B
	EB-LR	0.40	19.3	B	0.50	21.7	C	0.51	22.1	C	0.17	15.5	B	0.20	16.1	B	0.20	16.1	B	0.52	22.4	C	0.55	23.3	C	0.56	23.6	C
Kent Avenue (N-S) @	NB-TR	0.31	6.1	A	0.31	6.1	A	0.32	6.2	A	0.48	11.1	B	0.55	12.2	B	0.57	12.5	B	0.32	8.6	A	0.44	9.7	A	0.45	9.7	A
South 3rd Street (EB)	SB-LT	0.32	6.2	A	0.41	6.9	A	0.42	6.9	A	0.55	12.4	B	0.61	13.6	B	0.63	14.1	B	0.92	33.7	C	1.00	50.6	D *	1.04	59.2	E *
Manhattan Avenue (N-S) @	NB-LT	0.18	10.9	B	0.18	10.9	B	0.18	10.9	B	0.29	23.0	C	0.31	23.2	C	0.31	23.2	C	0.17	10.7	B	0.19	11.0	B	0.19	11.0	B
Driggs Avenue (WB)	SB-TR	0.23	11.5	B	0.26	11.8	B	0.26	11.9	B	0.37	24.5	C	0.38	24.7	C	0.38	24.7	C	0.29	12.0	B	0.29	12.1	B	0.29	12.1	B
	WB-TR	0.80	38.4	D	0.77	36.6	D	0.78	37.4	D	0.46	14.4	B	0.47	14.5	B	0.48	14.6	B	0.93	53.4	D	1.01	70.3	E *	1.02	71.7	E *
McGuinness Boulevard (N-S) @	NB-TR	0.99	41.7	D	1.06	64.0	E *	1.07	67.3	E *	0.65	17.7	B	0.66	18.0	B	0.67	18.1	B	0.69	18.6	B	0.70	18.9	B	0.70	19.1	B
Green Street (EB)	SB-L	0.89	98.6	F	0.89	98.6	F	0.89	98.6	F	0.43	20.8	C	0.44	21.8	C	0.45	21.9	C	0.52	26.2	C	0.54	27.3	C	0.55	28.3	C
	SB-T	0.57	15.6	B	0.58	15.8	B	0.59	15.9	B	0.51	14.6	B	0.53	14.9	B	0.53	15.0	B	0.75	19.6	B	0.82	22.0	C	0.83	22.3	C
	EB-LTR	0.65	44.2	D	1.15	132.6	F *	1.19	150.4	F *	0.65	44.8	D	0.80	54.1	D *	0.82	56.1	E *	0.71	47.5	D	0.89	64.1	E *	0.91	67.3	E *
McGuinness Boulevard (N-S) @	NB-L	0.47	26.0	C	0.39	23.1	C	0.41	24.2	C	0.60	34.8	C	0.59	36.5	D	0.60	37.1	D	1.01	138.8	F	1.15	188.3	F *	1.15	188.3	F *
Greenpoint Avenue (E-W)	NB-TR	0.86	27.1	C	0.89	29.3	C	0.89	29.6	C	0.62	18.6	B	0.64	19.1	B	0.64	19.2	B	0.68	20.0	B	0.71	21.1	C	0.72	21.4	C
	SB-L	0.95	126.4	F	0.95	126.4	F	0.95	126.4	F	0.36	19.3	B	0.38	20.3	C	0.39	20.6	C	0.57	30.4	C	0.63	37.3	D	0.65	39.0	D
	SB-TR	0.58	17.5	B	0.62	18.2	B	0.63	18.4	D	0.54	16.7	B	0.58	17.3	B	0.58	17.4	B	0.71	20.2	C	0.80	22.9	C	0.81	23.2	C
	EB-LTR	0.47	33.4	C	0.66	44.3	D	0.69	46.0	D *	0.28	29.9	C	0.30	30.4	C	0.31	30.6	C	0.56	35.7	D	0.58	36.3	D	0.59	36.6	D
	WB-LTR	0.60	36.9	D	0.55	35.0	D	0.55	35.2	D	0.74	41.9	D	0.75	42.2	D	0.75	42.3	D	0.80	45.8	D	0.93	62.1	E *	0.94	63.0	E *
McGuinness Boulevard (N-S) @	NB-TR	0.85	24.7	C	0.87	25.8	C	0.87	26.2	C	0.72	19.8	B	0.74	20.3	C	0.74	20.5	C	0.73	20.1	C	0.77	21.4	C	0.78	21.8	C
Calyer Street (EB)	SB-L	0.85	98.2	F	0.85	98.2	F	0.85	98.2	F	0.66	36.3	D	0.68	39.2	D	0.69	40.5	D	0.62	32.9	C	0.69	41.3	D	0.70	43.6	D
	SB-T	0.81	23.0	C	0.84	24.7	C	0.85	25.3	C	0.79	22.1	C	0.80	22.7	C	0.81	22.9	C	0.66	17.3	B	0.68	17.8	B	0.69	17.9	B
	EB-LTR	0.84	57.5	E	1.16	138.2	F *	1.19	150.6	F *	0.64	43.5	D	0.74	48.4	D	0.75	48.8	D *	0.96	74.8	E	1.09	110.6	F *	1.10	115.4	F *
McGuinness Boulevard (N-S) @	NB-L	0.32	12.7	B	0.49	22.2	C	0.51	24.0	C	0.38	14.4	B	0.56	24.0	C	0.58	25.4	C	0.43	19.9	B	1.07	127.0	F *	1.12	142.7	F *
Meserole Avenue (WB)	NB-T	0.83	16.9	B	0.85	17.9	B	0.85	18.0	B	0.57	9.9	A	0.58	10.1	B	0.59	10.1	B	0.64	11.1	B	0.67	11.8	B	0.68	11.9	B
	SB-TR	0.71	12.5	B	0.77	14.3	B	0.78	14.6	B	0.68	11.7	B	0.70	12.3	B	0.71	12.4	B	0.89	20.6	C	0.94	25.4	C	0.94	26.0	C
	WB-LTR	0.75	54.7	D	0.78	56.8	E	0.78	57.1	E	0.72	54.0	D	0.78	60.5	E *	0.79	61.5	E *	0.92	83.8	F	1.13	147.1	F *	1.14	148.5	F *
Driggs Avenue (SB) @	SB-LT	0.41	9.5	A	0.41	9.5	A	0.41	9.5	A	0.32	8.5	A	0.33	8.6	A	0.33	8.6	A	0.42	9.6	A	0.45	10.0	A	0.46	10.1	B
North 7th Street (EB)	EB-TR	0.77	49.7	D	0.91	66.9	E *	0.93	70.7	E *	0.77	50.3	D	0.81	54.2	D	0.82	54.6	D	0.55	37.7	D	0.60	39.7	D	0.61	40.0	D
Union Avenue (N-S) @	NB-LTR	0.99	85.8	E	0.99	84.5	F	0.99	84.5	F	0.99	86.8	F	1.01	90.9	F *	1.01	90.9	F *	0.97	87.6	F	1.02	99.6	F *	1.05	108.9	F *
Metropolitan Avenue (E-W)	SB-LTR	0.64	44.7	D	0.68	46.6	D	0.68	46.6	D	0.73	49.7	D	0.75	51.0	D	0.75	50.7	D	0.40	35.5	D	0.41	35.6	D	0.41	35.6	D
	EB-LTR	0.55	15.8	B	0.61	17.4	B	0.62	17.7	B	0.63	17.9	B	0.64	18.3	B	0.65	18.4	B	0.76	22.6	C	0.76	22.6	C	0.78	23.2	C
	WB-LTR	0.94	41.4	D	0.91	36.3	D	0.93	39.8	D	0.67	19.0	B	0.68	19.3	B	0.69	19.7	B	0.81	25.1	C	0.90	32.4	C	0.87	30.0	C

Unsignalized Intersections

		AM Peak Hour									MD Peak Hour									PM Peak Hour								
		2013 No-Action			2013 With Action			Alternative Revised .A.H.B.I			2013 No-Action			2013 With Action			Alternative Revised .A.H.B.I			2013 No-Action			2013 With Action			Alternative Revised .A.H.B.I		
Intersection	Lane Group	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C Ratio	DELAY (SEC/VEH)	LOS
Kent Avenue (N-S) @	NB-LTR	0.00	8.7	A	0.00	8.8	A	0.00	8.8	A	0.00	8.1	A	0.00	8.2	A	0.00	8.2	A	0.01	8.9	A	0.00	8.9	A	0.00	9.0	A
North 7th Street (E-W)	SB-LTR	0.03	8.4	A	0.03	8.4	A	0.04	8.4	A	0.04	8.5	A	0.04	8.6	A	0.04	8.6	A	0.03	8.5	A	0.04	8.7	A	0.04	8.8	A
	EB-LTR	0.01	17.3	C	0.54	34.2	D *	0.58	36.9	E *	0.01	14.3	B	0.17	18.5	C	0.18	18.8	C	0.01	20.3	C	0.39	38.4	E	0.44	41.2	E
Kent Avenue (N-S) @	NB-LT	0.00	8.7	A	0.02	9.1	A	0.03	9.1	A	0.00	8.1	A	0.03	8.3	A	0.03	8.3	A	0.00	8.8	A	0.08	9.3	A	0.09	9.4	A
North 6th Street (E-W)	EB-LR	0.01	16.5	C	0.01	20.5	C	0.01	20.8	C	0.01	13.1	B	0.01	14.9	B	0.01	15.2	C	0.01	19.0	B	0.02	35.3	E	0.02	39.0	E
	WB-LTR	0.13	14.2	B	0.22	19.0	C	0.23	19.5	C	0.16	15.8	C	0.28	21.0	C	0.29	21.7	C	0.20	15.8	B	0.69	54.6	F *	0.77	67.1	F *
Manhattan Avenue (N-S) @	SB-LT	0.03	8.0	A	0.03	8.0	A	0.03	8.0	A	0.03	7.8	A	0.03	7.8	A	0.03	7.8	A	0.04	7.9	A	0.04	7.9	A	0.04	7.9	A
Green Street (EB)	EB-LTR	0.38	15.7	B	0.85	42.0	E *	0.89	48.5	E *	0.34	15.5	C	0.46	18.4	C	0.48	18.8	C	0.46	19.9	B	0.64	27.6	D	0.66	28.8	D

ABBREVIATION:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway
V/C Ratio - Volume to Capacity Ratio
SEC/VEH - Seconds per Vehicle
LOS - Level of Service
*- Denotes Impacted Location
(a) All-way stop control; no v/c ratio reported

TABLE 23-12
Traffic Mitigation Measures for AHBI Alternative

Intersection	Approach	Period	Current Signal Timing (Seconds) (1)	Greenpoint - Williamsburg Proposed Mitigation Measures: Mitigation Signal Timing (Seconds) (1)	Greenpoint - Williamsburg Proposed Mitigation Measures: Description of Mitigation	Kent Avenue / Franklin Street Reconstruction Mitigation Measures: Description of Mitigation
Franklin Street (N-S) Calyer Street (E-W)	NB/SB Ped	MD	36/36/36 24/24/24	36/38/36 24/22/24	Transfer 2 sec. of green time from Ped. phase to NB/SB approach in MD.	Daylight curb lane along SB approach in AM and along NB approach in PM. Transfer 5 sec. from Ped. phase to to NB/SB phase in AM and 4 sec. in PM.
Franklin Street (N-S) Quay Street (EB)	NB/SB EB	PM	36/36/36 24/24/24	36/36/39 24/24/21	Transfer 3 sec. of green time from EB phase to NB/SB phase in PM. (additional of 1 sec)	
Kent Avenue (N-S) South 3rd Street (E-W)	NB/SB Ped.	PM	36/36/36 24/24/24	36/36/38 24/24/22	Transfer 2 sec. of green time from Ped. phase to NB/SB phase in PM. (additional of 1 sec)	Transfer 5 sec. of green time from Ped. phase to NB/SB phase in AM.
Manhattan Avenue (N-S) Driggs Avenue (WB)	NB/SB WB	PM	55/55/55 35/35/35	55/55/52 35/35/38	Transfer 3 sec. from NB/SB phase to WB phase in PM.	
McGuinness Boulevard (N-S) Green Street (EB)	NB/SB EB	ALL	90/90/90 30/30/30	90/90/90 30/30/30	Implement no standing 7AM-10AM for 120' on the NB approach. Implement NS 7AM-7PM for 120 feet on the south curb of the eastbound approach,	
McGuinness Boulevard (N-S) Greenpoint Avenue (E-W)	NB/SB EB/WB NBLT/SBLT	PM	74/74/74 46/46/46 --/--/--	67/61/61 40/46/46 13/13/13	Implement exclusive 13 sec. NB/SB left-turn phase. Re-stripe WB approach to provide an exclusive left-turn lane and two through lanes. (Transfer 1 additional second from EB/WB to NB/SB.in the AM peak hr)	
McGuinness Boulevard (N-S) Calyer Street (EB)	NB/SB EB	ALL	78/78/78 42/42/42	78/78/78 42/42/42	Implement no standing 7AM-7PM for 120' on south curb of the EB approach.	
McGuinness Boulevard (N-S) Meserole Avenue (WB)	NB/SB WB NB	MD/PM	90/90/90 30/30/30 --/--/--	77/75/74 30/32/30 13/13/16	Implement no standing 4-7PM for 120' on the SB approach and on south curb of the WB approach. Implement 13 sec. NB-LT phase in AM and 16 sec. in PM. Transfer 2 sec. of green time from NB/SB to WB in MD. (additional of 1 sec from NB/SB to NB only)	
Driggs Avenue (SB) North 7th Street (EB)	SB EB	AM	63/63/63 27/27/27	60/63/63 30/27/27	Transfer 3 sec. of green time from SB phase to EB phase in AM. (Implement NS 7-10AM on the south curb of the EB approach.)	
Union Avenue (N-S) Metropolitan Avenue(E-W)	NB/SB EB/WB	MD/PM	40/40/40 80/80/80	40/42/43 80/78/77	Transfer 2 sec. of green time from EB/WB phase to NB/SB phase in MD and 3 sec. in PM.	
Kent Avenue (N-S) North 6th Street (WB)	NB/SB WB	All	unsignalized	38/38/38 22/22/22	Install new traffic signal with 60 sec. cycle length.	*Kent Ave./Franklin St. Reconstruction Report* found that a signal may be warranted at this intersection as new development occurs in the future.
Kent Avenue (N-S) North 7th Street (EB)	NB/SB EB	All	unsignalized	38/38/38 22/22/22	Install new traffic signal with 60 sec. cycle length.	
Manhattan Avenue (N-S) Green Street (EB)	NB/SB EB	All	unsignalized	48/48/48 42/42/42	Install new traffic signal with 90 sec. cycle length.	
Kent Avenue (N-S) North 11th Street (EB)	NB/SB EB	All	unsignalized	38/38/38 22/22/22	Install new traffic signal with 60 sec. cycle length to facilitate pedestrian access to future park.	*Kent Ave./Franklin St. Reconstruction Report* found that a signal may be warranted at this intersection as new development occurs in the future.

Notes:

(1) Signal timings shown indicate green plus yellow (including all-red) for each phase.
Ped. - all pedestrian phase.

It is estimated that in the future No-Action, weekday overnight demand for on-street parking within ¼-mile of the proposed action area would total approximately 83 percent of capacity, with approximately 3,600 parking spaces available to accommodate new demand. This would be more than sufficient to accommodate the estimated 2,317 spaces of overnight on-street parking demand that would be generated by the Revised AHBI Alternative. Therefore, this alternative, like the proposed action, is not expected to adversely affect on-street parking conditions in the study area.

Transit and Pedestrians

The increase in the net number of dwelling units by 7.1% overall would also increase transportation demand in the area by a similar amount compared to the proposed action. As shown in Table 23-9, the Revised AHBI Alternative would generate a net of 3,242 subway trips in the AM, 1,720 subway trips in the midday, and 3,890 subway trips in the PM peak hour (compared to 2,999, 1,584, and 3,603 trips, respectively, with the proposed action). The Revised AHBI Alternative would also generate a net of 354, 304, and 548 bus trips in the AM, midday, and PM peak hours, respectively (compared to 325, 282, and 510 bus trips with the proposed action). Based on an assessment of this increase in demand, it is expected that transit and pedestrian conditions would marginally worsen under this alternative, but there would be no new subway, bus, or pedestrian impacts due to this alternative. All mitigation measures required for the proposed action would also be required for this alternative.

Subway Stations

Like the proposed action, all station processors at the Bedford Avenue (L) station would continue to operate at acceptable LOS C or better in both peak hours under the Revised AHBI Alternative, with the exception of stair S3. This stair would operate at LOS E in both the AM and PM peak hours, with v/c ratios of 1.35 and 1.40 during these periods, respectively (compared to 1.33 and 1.38 with the proposed action). Under the Revised AHBI Alternative, the width increment threshold (WIT) to restore this stair to an acceptable level of service (a v/c ratio of less than 1.00) would total 13.28 inches in the AM and 15.52 inches in the PM (compared to 12.48 inches and 14.56 inches, respectively, for the proposed action). As the WIT would be above the three-inch CEQR impact threshold for LOS E, as with the proposed action, this stair would be significantly impacted by demand from the Revised AHBI Alternative in both peak hours based on CEQR criteria.

Stairways and fare arrays at the other two subway stations analyzed in the EIS (Greenpoint Avenue (G) and Nassau Avenue (G)) would operate at acceptable LOS C or better in both peak periods in the future with the Revised AHBI Alternative. As such, as with the proposed action, no significant adverse impacts are expected at the Greenpoint Avenue station or the Nassau Avenue station with the Revised AHBI Alternative.

Subway Line Haul

As with the proposed action, Manhattan-bound subway demand generated by the Revised AHBI Alternative would result in a significant adverse line haul impact to the Manhattan-bound Canarsie/14th Street (L) Line in the AM peak hour. As shown in Table 23-13, demand from this alternative would add approximately 7.4 passengers per car to Manhattan-bound L trains in the AM (versus 7.0 passengers/car for the proposed action) and the Line would be operating over capacity with a v/c ratio to 1.03 compared to 0.97 in the No-Action and 1.02 for the proposed action. The Crosstown (G) Line would continue to operate below capacity in both peak hours with this alternative.

TABLE 23-13
2013 Future Subway Line Haul Conditions With the Revised AHBI Alternative
Canarsie/14th Street (L) Line and Crosstown (G) Line

						2013 No-Action		2013 Future With the Proposed Action		
Route	Peak Hour	Peak Direction	Trains per Hour (1)	Cars per Hour (1)	Available Capacity (2)	Passengers per Hour (3)	V/C Ratio (4)	Passengers per Hour	V/C Ratio (4)	Avg. Added Passengers per Car
L	AM	Manhattan-Bound	18	144	20,880	20,351	0.97	21,364	1.02	7.0 **
	PM	Brooklyn-Bound	15	120	17,400	12,969	0.75	13,964	0.80	8.3
G	AM	Brooklyn-Bound	8	32	5,600	4,631	0.83	4,968	0.89	10.5
	PM	Queens-bound	8	32	5,600	2,524	0.45	2,855	0.51	10.3

						2013 No-Action		2013 Future With the Revised AHBI Alternative		
Route	Peak Hour	Peak Direction	Trains per Hour (1)	Cars per Hour (1)	Available Capacity (2)	Passengers per Hour (3)	V/C Ratio (4)	Passengers per Hour	V/C Ratio (4)	Avg. Added Passengers per Car
L	AM	Manhattan-Bound	18	144	20,880	20,351	0.97	21,413	1.03	7.4 **
	PM	Brooklyn-Bound	15	120	17,400	12,969	0.75	14,013	0.81	8.7
G	AM	Brooklyn-Bound	8	32	5,600	4,631	0.83	5,154	0.92	16.3
	PM	Queens-Bound	8	32	5,600	2,524	0.45	3,037	0.54	16.0

Notes:
(1) Assumes AM peak hour L train service levels adjusted to address capacity shortfalls in Future No-Action Condition.
(2) Capacity based on 145 passengers/car for 60' cars and 175 passengers/car for 75' cars as per NYC Transit subway car loading guidelines. L trains operate with eight 60'-cars; G trains with four 75'-cars.
(3) Projected No-Action volumes based on NYC Transit 2003 peak load point data increased to reflect one percent per year background growth and demand from No-Action sites.
(4) Volume-to-capacity ratio.
** Denotes a significant adverse impact.

Bus Service

As with the proposed action, all NYC Transit local bus routes serving the proposed action area would continue to operate with available capacity in both peak hours under the Revised AHBI Alternative, with the exception of the B61 route. In the PM peak hour, northbound B61 buses would operate with a deficit of 33 spaces under the Revised AHBI Alternative, compared to a deficit of 26 spaces with the proposed action. Therefore, the Revised AHBI Alternative, like the proposed action, would result in a significant adverse impact to northbound B61 bus service in the PM peak hour.

Pedestrians

Under the Revised AHBI Alternative, all analyzed sidewalks would operate at an acceptable LOS B or better under platoon conditions in both the AM and PM peak hours, with no sidewalk experiencing a flow rate exceeding 5.5 persons per foot-width per minute. Therefore, no analyzed sidewalk would be significantly adversely impacted as a result of new demand generated by the Revised AHBI Alternative. All analyzed corner areas would similarly operate at an acceptable LOS B or better in both peak hours, with at least 48 square feet of circulation area per pedestrian (SF/ped). Therefore, no analyzed corner area would be considered significantly adversely impacted by new demand generated by the Revised AHBI Alternative.

Under the Revised AHBI Alternative, two analyzed crosswalks on Bedford Avenue would experience LOS D conditions in either the AM or PM peak hour. In the AM peak hour, the south crosswalk at North 7th Street would operate at LOS D with 24.0 SF/ped, while in the PM peak hour, the north crosswalk at North 6th Street would operate at LOS D with 23.2 SF/ped. As discussed in Chapter 17, "Transit and

Pedestrians," *CEQR* criteria define a significant adverse crosswalk impact as a decrease in pedestrian space of one or more SF/ped when the No-Action condition has an average occupancy of 20 SF/ped (mid-LOS D) or less. As both of these crosswalks would continue to operate with greater than 23 SF/ped in both peak hours under the Revised AHBI Alternative, neither would be significantly adversely impacted based on *CEQR* criteria. As all other analyzed crosswalks would continue to operate at LOS C or better in both peak periods, no significant adverse impacts to any analyzed crosswalk are expected to occur under the Revised AHBI Alternative.

Overall, the Revised AHBI Alternative, like the proposed action, is not expected to result in any significant adverse impacts to analyzed sidewalks, corner areas or crosswalks in either the AM or PM peak periods.

Air Quality

Under both this alternative and the proposed action, no violations of the National Ambient Air Quality Standards (NAAQS) are predicted to occur and both the alternative and the proposed action would be consistent with the New York State Implementation Plan (SIP). Under the proposed action, no impacts are expected to occur from mobile sources or parking facilities. Although this alternative results in somewhat more housing units, it is not expected that the increase in traffic from these additional housing units would result in violations of air quality standards given that conditions with the proposed action are well below the standard (the increase in housing units is unlikely to add traffic that would cause air quality violations). While there would be additional traffic associated with this alternative, air modeling has shown that the recorded concentrations for CO in the area are low enough such that the projected increased increases in traffic at each analyzed intersection would not result in any exceedances of standards or the City's de minimis criteria or violations of air quality standards.

In addition, while there would be a slight increase in the new accessory parking that would be required under the Revised AHBI Alternative as a result of the increased density, such an increase would be small (an estimated 6% increase in accessory parking spaces). Therefore, as with the proposed action, no significant adverse impacts from those parking facilities are expected under the Revised AHBI Alternative.

The (E) designations for HVAC systems would be the same as with the proposed action, and would be applied to the same four projected developments sites (Sites 60, 62, 105, and 199b). In addition, no air quality impacts from HVAC systems are expected due to the changes in heights on the waterfront developments under the alternative (which would be up to 50 feet higher than that with the proposed action).

Like the proposed action, impacts are expected to occur at certain development sites due to existing industrial air emission sources in the area. Under the proposed action, these potential impacts are avoided by placing air quality (E) designations on one projected and nine potential development sites (as shown in Tables S-5 and 18-18 of the EIS, these are Site 230 and Sites 52, 54, 64, 69, 84, 85, 115, 116, and 154, respectively). Under the Revised AHBI Alternative, it is expected that the same sites listed in Tables S-5 and 18-18 of the EIS would need the (E) designation due to these existing sources.

Noise

Likewise, the increases in traffic are not expected to result in any significant increases in local ambient noise or a doubling of traffic at any roadway or intersection such that an impact would occur. With respect to the need for noise attenuation, the proposed (E) designations would be the same as under the proposed action. As with the proposed action, a total of 45 projected and potential sites would be mapped with an (E) designation for noise attenuation under the Revised AHBI Alternative. As shown in Table S-6, 19-12 and 19-13 of the EIS, 38 of those sites (10 projected and 28 potential) would require a noise attenuation level of 30 dBA, and seven sites (one projected and six potential) would require a noise attenuation level of 35 dBA.

Construction Impacts

Under the Revised AHBI Alternative, development could potentially occur on the same 340 projected and potential development sites identified for the proposed action, although five of the projected development sites identified for the proposed action would be considered potential development sites with the Revised AHBI Alternative. As such, the Revised AHBI Alternative would generate similar temporary construction disruptions to those attributable to the proposed action. As with the proposed action, construction-related activities resulting from the Revised AHBI Alternative are not expected to have any significant adverse impacts on natural resources, traffic, air quality, noise, or hazardous materials conditions. Construction does have the potential for adverse impacts on archaeological resources and on two potentially eligible architectural resources. However, as with the proposed action, such impacts cannot be mitigated because the projected and potential development sites are privately owned and could be redeveloped with or without the proposed action. Moreover, as with the proposed action, all construction would be governed by applicable city, state, and federal regulations regarding construction activities, avoiding significant adverse impacts in other areas.

Public Health

The Revised AHBI Alternative would result in similar effects on public health compared to the proposed action. Like the proposed action, no activities are proposed under the Revised AHBI Alternative that would exceed accepted City, state, or federal standards with respect to public health. Neither the proposed action nor the Revised AHBI Alternative would result in significant adverse public health impacts.

Mitigation Measures Required for the Revised AHBI Alternative

As discussed in the preceding sections, the Revised AHBI Alternative would be expected to result in significant adverse impacts on socioeconomic conditions due to indirect residential displacement, community facilities (elementary schools and day care facilities), open space resources (under Scenario B), historic resources, traffic, and transit. In most cases, the mitigation measures identified for the proposed action would be applicable to the Revised AHBI Alternative, although they would require some expansion, as detailed below. Unlike the proposed action, the inclusionary housing program under the Revised AHBI alternative would serve as partial mitigation for the potential indirect residential displacement impact. Table 23-14 summarizes the impacts expected with the Revised AHBI Alternative and mitigation measures.

TABLE 23-14
Summary of Revised AHBI Alternative's Impacts and Possible Mitigation Measures

IMPACT	MITIGATION MEASURES
Socioeconomic Conditions The Revised AHBI Alternative could, like the proposed action, result in the indirect displacement of approximately 830 households in the proposed action and primary study areas.	Unlike the proposed action, the Revised AHBI Alternative would create an additional 1,398 affordable housing units. The Revised AHBI Alternative would partially mitigate significant adverse socioeconomic impacts related to indirect residential displacement.
Community Facilities - Schools • Elementary schools within the Greenpoint sub-area would be at 143% of capacity, a shortfall of 965 seats. • Elementary schools within the ½ mile study area would be at 107% of capacity, a shortfall of 638 seats.	As with the proposed action, possible mitigation measures include: • Create additional capacity of 965 seats in Greenpoint by constructing a new elementary school or building additional capacity at existing schools. • Adjust school catchment areas (attendance zones) within the School district to relieve overcrowding in the affected schools • Adjusting grade levels within schools to better utilize available space in elementary and intermediate schools where capacity exists.
Community Facilities - Day Care As the Revised AHBI Alternative would add approximately 372 children eligible for subsidized day care, that would increase demand by 12.8 percent over the capacity of 2,911 slots. Because the Revised AHBI Alternative would result in an increase of more than five percent in a deficiency of day care slots over the No-Action condition, a significant adverse impact to publicly funded day care centers in the study area is expected to occur with the Revised AHBI Alternative.	Unlike the proposed action, the Revised AHBI Alternative could result in a significant adverse impact on publicly funded or partially publicly funded day care facilities in the study area, and would require mitigation measures for this impact which would not be required under the proposed action. Possible mitigation measures include: • Adding capacity to existing facilities, or • providing a new daycare facility within or near the proposed action area. At this point however, it is not possible to know exactly which type of mitigation would be most appropriate and when, because the demand for publicly funded day care depends not only on the amount of residential development in the area, but the proportion new residents who are children of low-income families. Therefore, as is standard practice, the Administration for Children's Services (ACS) is expected to monitor development of the proposed action area and respond as appropriate to provide the capacity needed.
Open Space Under Scenario B, total open space ratio in Greenpoint sub-area would decrease by 12.9%	The addition of 2.7 acres of open space to the Greenpoint sub-area and redevelopment of the McCarren Park pool for active recreation would add a total of 5.45 acres of open space (100 percent active) to the Greenpoint sub-area, fully mitigating the Revised AHBI Alternative's open space impact on the Greenpoint sub-area in Scenario B. However, as with the proposed action, if these mitigation measures are determined to be infeasible, the significant adverse impact would remain unmitigated.
Historic Resources - Architectural Same impacts as those identified for the proposed action	As with the proposed action, no mitigation measures are feasible and practicable because the area to be rezoned and the sites identified for projected and potential development are privately-owned. In the future, if the sites are developed as-of-right in accordance with the new zoning, private ownership of the land prevents the City from requiring any of the above mitigation measures. As such, as with the proposed action, the architectural impacts identified are considered to be unmitigated impacts.

TABLE 23-13 (continued) - Summary of Revised AHBI Alternative's Impacts and Possible Mitigation Measures

Historic Resources - Archaeological Same impacts as those identified for the proposed action	As with the proposed action, no mitigation measures are feasible and practicable because the area to be rezoned is privately-owned and private ownership of the land prevents the City from mandating the preservation or documentation of such remains, should they exist. As such, as with the proposed action, archaeological impact is considered to be an unmitigated impact.
Traffic and Parking As with the proposed action, impacts would occur at 10 signalized and three unsignalized intersections: • Franklin St @ Calyer St (sig) – MD • Franklin St @ Quay St (sig) – PM • Kent Av @ South 3rd (sig) – PM • Manhattan Av @ Driggs Av (sig) – PM • McGuinness Blvd @ Green St (sig) – AM, MD, PM • McGuinness Blvd @ Greenpoint Av (sig) – AM, PM • McGuinness Blvd @ Calyer St (Sig) – AM, PM • McGuinness Blvd @ Meserole Av (sig) – MD, PM • Driggs AV @ North 7th (sig) – AM • Metropolitan Av @ Union Av (sig) – MD, PM • Kent Av @ North 6th St (unsig) – PM • Kent Av @ North 7th (unig) – AM • Manhattan Av @ Green St (unsig) – AM	• Traffic mitigation plan would be the same as that identified for the proposed action, with some minor adjustments, as shown in Table 23-12, and includes minor signal timing changes and implementation of exclusive left-turn phases, new curbside parking restrictions on impacted approaches, and the installation of new traffic signals at three unsignalized intersections (plus one for pedestrians, see below). • As with the proposed action, the traffic mitigation plan would fully mitigate all impacts, with the exception of the impact at McGuinness Boulevard @ Greenpoint Avenue in the AM, which would remain unmitigated.
Transit and Pedestrians Same impacts as with the proposed action: • Bedford Avenue (L) subway station: impact at stair S3 at southeast corner of Bedford and N. 7th in the AM and PM peaks • Line haul impact to Manhattan-bound L trains in AM peak • Impact on NYCT's B61 bus route in the northbound direction in PM peak	• As with the proposed action, at Stair S3, a two to three-foot widening would be required to restore this stair to acceptable levels of service in both the AM and PM peak periods. • Line haul – As with the proposed action, accommodating new demand from the Revised AHBI Alternative would require the addition of one new peak hour Manhattan-bound L-train (capacity 1,440) in the AM. As standard practice, New York City Transit routinely conducts periodic ridership counts and adjusts subway frequency to meet its service criteria, within fiscal and operating constraints. Therefore, as with the proposed action, no project-specific mitigation is proposed for the potential impact to Manhattan-bound L-train service in the AM peak hour. • As with the proposed action, the addition of a single northbound bus on the B61 route in the AM peak hour would provide sufficient capacity to accommodate projected new demand from the Revised AHBI Alternative. As standard practice, New York City Transit routinely conducts periodic ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operating constraints. Therefore, as with the proposed action, no project-specific mitigation is proposed for the potential impact to northbound B61 service. • Pedestrians - As with the proposed action, no pedestrian impacts are expected and no pedestrian mitigation is warranted or proposed for the Revised AHBI Alternative. However, as with the proposed action, the installation of a new signal at Kent Ave @ N. 11th Street is recommended in order to facilitate pedestrian access to and from the proposed park.

Socioeconomic Conditions

Although the Revised AHBI Alternative could, like the proposed action, result in the indirect displacement of approximately 830 households in the proposed action and primary study areas, the Revised AHBI Alternative would create an additional 1,398 affordable housing units. Under HPD's community preference policy, eligible residents of Brooklyn Community District 1 would receive preference for half of the affordable units in any given development, if built under city-sponsored programs and most of the displaced residents would likely qualify for the affordable units. However, the population of potentially displaced residents is expected to comprise only a portion of the households selected for the affordable units, and not all of the potentially displaced population are expected to be able to rent these units. Therefore significant adverse impacts resulting from indirect residential displacement are only partially mitigated under this alternative.

Community Facilities

Elementary Schools

The Revised AHBI Alternative would result in a significant adverse impact on elementary schools within the Greenpoint sub-area, as well as the overall ½-mile study area. In the future with the Revised AHBI Alternative, elementary schools within the Greenpoint sub-area would be at 143 percent of capacity, a potential shortfall of 965 seats, whereas the ½-mile study area would operate at 107 percent of capacity, a potential shortfall of 638 seats. To eliminate this impact, mitigation measures to be developed by the Department of Education, similar to those identified for the proposed action, would be applied (see Table 23-14). However, whereas the proposed action required an additional capacity of 778 seats within the Greenpoint subarea and 439 seats within the ½-mile study area to address the identified shortfalls, the Revised AHBI Alternative would require an additional capacity of 965 seats in the Greenpoint sub-area and 638 seats in the ½-mile study area. Funding for additional school capacity would be reflected in amendments to the Department of Education's Five-Year Educational Capital Facilities Plan.

Day Care

The Revised AHBI Alternative would add approximately 372 children eligible for subsidized day care, thereby increasing demand by 12.8 percent over the capacity of 2,911 slots. As the existing demand for publicly funded day care facilities exceeds the capacity, and because the Revised AHBI Alternative, unlike the proposed action, would result in an increase of more than five percent in a deficiency of day care slots over the No-Action condition, a significant adverse impact to publicly funded day care centers in the study area would be expected to occur with the Revised AHBI Alternative.

Possible mitigation measures could include adding capacity to existing facilities or providing a new daycare facility within or near the proposed action area. At this point, however, it is not possible to know exactly which type of mitigation would be most appropriate and when, because the demand for publicly funded day care depends not only on the amount of residential development in the area, but the proportion of new residents who are children of low-income families. Therefore, as is standard practice, the Administration for Children's Services (ACS) would monitor development of the proposed action area and respond as appropriate to provide the capacity needed.

Open Space

The Revised AHBI Alternative, like the proposed action, would reduce the open space ratio under Scenario B. Under Scenario B, the proposed action would decrease the active open space ratio by 23.3 percent, the passive open space ratio by 0.5%, and the total open space ratio by 12.9 percent within the Greenpoint sub-area, a decrease of 0.100 acres per 1,000 resident, 0.002 acres per 1,000 resident, and 0.103 acres per resident, respectively, as compared to No-Action conditions. As the Greenpoint sub-area currently experiences a shortfall of open space, and as the existing deficiency of open space would increase as a result of the proposed action under Scenario B, it represents a significant adverse indirect impact.

The development of a 1,100 megawatt power plant on the site of the Bayside Fuel facility (Block 2277, Lot 1) under Scenario B is subject to State approvals which the City believes are unlikely to occur. However, in the event that development of the power plant proceeds, as with the proposed action, possible mitigation measures for the Revised AHBI Alternative under Scenario B, include the creation of additional active open space within the Greenpoint sub-area and the redevelopment of the McCarren Park pool site for active recreation. If refurbished and upgraded, this facility would add approximately 5.5 acres of active open space to the study area, of which half, or approximately 2.75 acres, would be included within the Greenpoint sub-area for analysis purposes. However, whereas the proposed action would require 1.5 acres of additional active open space throughout the Greenpoint sub-area to mitigate the impact under Scenario B, the Revised AHBI Alternative would require a minimum of 2.7 acres of additional active open space to mitigate the impact anticipated under Scenario B. As with the proposed action, new open space resources could be created on vacant or underutilized, preferably City-owned, sites throughout the Greenpoint sub-area. Potential locations for the creation of new active open space resources identified to date are Block 2472, Lot 425, currently the site of an MTA bus maintenance facility and part of the MTA master lease; and Block 2472, Lot 32, currently leased to the Greenpoint Lumber Exchange and the site of a DEP loading dock associated with the sludge storage tank. The City would proceed to establish these and/or other sites upon a final determination that development of the power plant is proceeding.

With these mitigation measures in place, an additional 5.45 acres of open space (100 percent active) would be added to the Greenpoint sub-area, for a total of 41.65 acres within the Greenpoint sub-area under Scenario B. As such, the total open space ratio under Scenario B for the Revised AHBI Alternative with these mitigation measures would be 0.797 acres per 1,000 residents, an increase of 0.1 percent from the total open space ratio of 0.796 per 1,000 residents under No-Action conditions. The active open space ratio would be 0.432 acres per 1,000 residents, an increase of 0.8 percent from the active open space ratio of 0.429 per 1,000 residents under No-Action conditions. As these mitigation measures would slightly increase the total amount of open space per 1,000 residents, they would mitigate the significant adverse impacts on the Greenpoint sub-area open space resources anticipated in Scenario B as a result of the Revised AHBI Alternative.

Traffic and Parking

As indicated in Table 23-8, the same mitigation measures identified for the proposed action, with some minor adjustments, would also mitigate the exacerbated impacts resulting from the Revised AHBI Alternative. Those mitigation measures are detailed in Table 23-12 and include minor signal timing changes and implementation of exclusive left-turn phases, new curbside parking restrictions on impacted approaches, and the installation of new traffic signals at three unsignalized intersections (plus one for pedestrians, see below). As with the proposed action, the traffic mitigation plan would fully mitigate all

impacts, with the exception of the impact at McGuinness Boulevard @ Greenpoint Avenue in the AM, which would remain unmitigated.

Transit and Pedestrians

The Revised AHBI Alternative, like the proposed action, would significantly adversely impact Stair S3 at the Bedford Avenue Station in both the AM and PM peak hours. Upwards of 16 inches of theoretical widening would be required to return this stair to an acceptable level of service (compared to upwards of 15 inches for the proposed action). The mitigation measure identified for the proposed action – a two to three-foot widening of Stair S3 – would also fully mitigate the AM and PM peak hour impacts to this stair under the Revised AHBI Alternative. With a two-foot widening, Stair S3 would operate at LOS C with v/c ratios of 0.86 or less in the AM and PM peak periods, fully mitigating the impacts from the Revised AHBI Alternative.

As with the proposed action, demand generated by the Revised AHBI Alternative would result in a significant adverse line haul impact to the Manhattan-bound Canarsie/14th Street (L) Line in the AM peak hour. As standard practice, New York City Transit routinely conducts periodic ridership counts and adjusts subway frequency to meet its service criteria, within fiscal and operating constraints. Given the level of new demand generated by this alternative, the addition of one Manhattan-bound train during the AM peak hour (increasing the frequency from 18 to 19 trains per hour) would be required to mitigate the potential AM peak hour impact to Manhattan-bound L-train service. The addition of one Manhattan-bound L train in the AM peak hour would return the Canarsie/14th Street Line to below capacity conditions, with a v/c ratio of 0.97 for this alternative.

As with the proposed action, the addition of a single northbound bus on the B61 route in the AM peak hour would provide sufficient capacity to accommodate projected new demand from the Revised AHBI Alternative. As standard practice, New York City Transit routinely conducts periodic ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operating constraints. Therefore, as with the proposed action, no project-specific mitigation is proposed for the potential impact to northbound B61 service.

Conclusions

Under the Revised AHBI Alternative, zoning-based mechanisms to encourage affordable housing are evaluated and incorporated into the proposed action, together with some changes to height and setback regulations in the waterfront area and minor changes to the zoning map. This alternative incorporates an enriched Inclusionary Housing program developed by the Department of City Planning and Department of Housing Preservation and Development for Greenpoint-Williamsburg, which would combine a zoning bonus with existing financial programs to create an incentive for the development and preservation of affordable housing in conjunction with the Greenpoint-Williamsburg Rezoning.

The Revised AHBI Alternative would result in similar effects with respect to site-specific areas such as hazardous materials and archaeology as under the proposed action. For density-related potential impacts, the effects of the Revised AHBI Alternative have the potential to be greater in magnitude as this alternative would result in more dwelling units and therefore more residents than the proposed action. As a result, the Revised AHBI is expected to result in greater impacts on public elementary schools and open space resources (under Scenario B), requiring greater degrees of mitigation than the proposed action, and would also result in impacts on public day care facilities which would not occur with the proposed action.

This alternative would also slightly exacerbate traffic and transit impacts. All of the traffic and transit mitigation measures required for the proposed action would also be required for this alternative, with some minor adjustments. By providing approximately 1,398 affordable housing units, the Revised AHBI Alternative would serve to reduce and partially mitigate the potential for the indirect residential displacement impact identified for the proposed action. The Revised AHBI Alternative would meet the objectives of the proposed action in facilitating opportunities for new residential development; and enhancing the public environment, ground-floor uses, and streetscapes to make the proposed action area a more appealing place to live, work, and visit. This alternative, which would provide zoning incentives for affordable housing that could be combined with housing subsidy programs, would result in a greater mix of housing and income groups in the future than the proposed action.

TABLE 23-15: Summary of Environmental Effects of Analyzed Alternatives

Projected Impacts By Technical Area	Proposed Action	ALTERNATIVES					
		No Action	No Impacts	Lesser Density	AWD	Urban Design	Revised AHBI
Land Use							
Socioeconomic Conditions	X *(indirect residential displacement)*			**X** *(indirect residential displacement)*	**X** *(indirect residential displacement)*	**X** *(indirect residential displacement)*	**X** *(indirect residential displacement)*
Community Facilities & Services							
Schools (elementary)	**X** *(Greenpoint sub-area & ½ mile study area)*			**X** *(Greenpoint sub-area)*	**X** *(Greenpoint sub-area, & ½ mile study area)*	**X** *(Greenpoint sub-area & ½ mile study area)*	**X** *(Greenpoint sub-area & ½ mile study area)*
Libraries							
Day Care							**X**
Health Care							
Open Space							
Scenario A							
Scenario B	**X** *(Greenpoint sub-area)*			**X** *(Greenpoint sub-area)*	**X** *Greenpoint sub-area, Williamsburg sub-area, & ½ mile study area)*	**X** *(Greenpoint sub-area)*	**X** *(Greenpoint sub-area)*
Shadows							
Historic Resources	**X**			**X**	**X**	**X**	**X**
Urban Design							
Neighborhood Character							
Natural Resources							
Hazardous Materials							
Infrastructure/Solid Waste/Energy							
Traffic and Parking	**X** *13 Intersections*			**X** *13 Intersections*	**X** *14 Intersections*	**X** *13 Intersections*	**X** *13 Intersections*
Transit and Pedestrians	**X**			**X**	**X**	**X**	**X**
Air Quality							
Noise							
Construction	**X** (archaeology)			**X** (archaeology)	**X** (archaeology)	**X** (archaeology)	**X** (archaeology)

Revised AHBI: Revised Affordable Housing Bonus and Incentives Alternative
AWD: Additional Waterfront Development Alternative